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GOVT PUBNS

ENVIRONMENTAL ASSESSMENT REVIEW PANEL

IN THE MATTER OF AN APPLICATION BY FOOTHILLS PIPE LINES (YUKON) LTD. TO THE MINISTER OF INDIAN AFFAIRS AND NORTHERN DEVELOPMENT FOR A GRANT OF THOSE INTERESTS IN THOSE AREAS OF TERRITORIAL LANDS IN THE YUKON TERRITORY AS MAY BE NECESSARY FOR THE CONSTRUCTION AND OPERATION OF THE SAID NATURAL GAS PIPELINE AND THE WORKS AND FACILITIES CONNECTED THEREWITH AND INCIDENTAL THERETO,

AND

IN THE MATTER OF A PANEL TO REVIEW THE ENVIRONMENTAL ISSUES RELATED TO THE PROPOSED ALASKA HIGHWAY GAS PIPELINE.

THE CHAIRMAN: DR. H. M. HILL

DR. O. HUGHES

MR. L. CHAMBERS

MEMBERS:

MR. B. J. TREVOR

MR. C. WYKES

DR. D. LACATE

PROCEEDINGS

VOLUME 8

WHITEHORSE, Y. T.

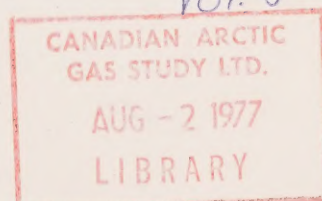
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I N D E XVOLUME 8, July 8, 1977.Page No.WILDLIFE DISTURBANCES (Continued)

Mr. Klassen	1361, 1375, 1382, 1393, 1410, 1423, 1428, 1461, 1477, 1484
Mr. Westworth	1362, 1375, 1379, 1386, 1391, 1398
Mr. Lowe	1362
Mr. Bouckhout	1364, 1375, 1379, 1385, 1397, 1404, 1413, 1421, 1436, 1444, 1457, 1460, 1466
Mr. McLaughlin	1364, 1368
Mr. Roberson	1372, 1387, 1419
Dr. Theberge	1375, 1379, 1394, 1466, 1473
Mr. Wykes	1388, 1400, 1414, 1430, 1456
Mr. Chambers	1388, 1396, 1422, 1482, 1483
Mr. Archibald	1389, 1398
Mr. Trevor	1393, 1456
Dr. Hughes	1395, 1438
Mr. Rowe	1402, 1462
Mr. Hernandez	1415
Mrs. Archibald	1418, 1433
Mr. Romaine	1427, 1440
Mr. Retfalvi	1427
Dr. Stanek	1428
Dr. Lacate	1439
Mr. McNally	1441, 1458, 1482
Mr. Meyer	1447
Dr. Lindsey	1448, 1486
Mr. Lister	1486

343.093
E56 F58
Vol. 8

SHEEP MOUNTAIN - SLIMS RIVER

Mr. Bouckhout	1487, 1496, 1504, 1506, 1519, 1524, 1530, 1534, 1541, 1543, 1589
Mr. Masyk	1490, 1507, 1522, 1533
Dr. Hughes	1498, 1531
Mr. Taylor	1500
Mr. Trevor	1504, 1507, 1521, 1530



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I N D E X (continued)VOLUME 8, July 8, 1977.Page No.(SHEEP MOUNTAIN - SLIMS RIVER continued)

Mr. Roberson	1505
Mr. Wykes	1506, 1529, 1536
Mr. Lindsey	1508
Mr. Meyer	1509
Mr. McNally	1511
Dr. Krebs	1512, 1521, 1532
Mr. Klassen	1525, 1590
Dr. Hoefs	1526, 1530, 1537
Mr. Hernandez	1538
Mr. Chambers	1540
Mr. Hutton	1542

DUKE MEADOWS

Mr. Bouckhout	1543
Dr. Hughes	1545
Mr. McNally	1545
Mr. Klassen	1546
Dr. Theberge	1546

IBEX PASS

Mr. Bouckhout	1549, 1568, 1571, 1585
Mr. McNally	1561
Mr. Meyer	1563
Dr. Krebs	1564
Mr. Klassen	1564, 1568, 1584
Mr. Chambers	1567, 1570
Mr. Lazerte	1567, 1579, 1586
Mr. Mossop	1569
Mr. Wykes	1571
Dr. Hughes	1572
Mr. Romaine	1577, 1587, 1591
Mr. Wahl	1583

I N D E X (continued)VOLUME 8, July 8, 1977.Page No.RECREATIONAL ISSUE

Mr. Hutton	1591, 1610
Mr. Bouckhout	1599, 1615, 1624
Mr. Meyer	1606, 1621
Mr. Klassen	1609, 1620
Mr. Trevor	1609, 1627
Dr. Lacate	1611
Dr. Hughes	1612
Mr. Wykes	1613
Mr. Chambers	1615, 1628
Mr. Taylor	1616
Mr. Mossop	1621
Mr. Roberson	1622
Mr. Elston	1625

SPECIAL AREAS, SPECIAL SPECIES

Mr. Romaine	1629, 1645
Mr. Meyer	1629
Mr. Bouckhout	1631, 1646
Mr. McNally	1633
Dr. Oswald	1647
Mr. Klassen	1649
Dr. Hoefs	1651
Mr. Mossop	1652

1 Whitehorse, Y. T.

2 July 8th, 1977.

3
4 (PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

5
6 MR. CHAIRMAN: Good morning.

7 Mr. Trevor said he may be a
8 couple of minutes late this morning, so we'll get proceed-
9 ings underway and hope he comes quickly.

10 For those of you who haven't
11 been at the proceedings before, or weren't here yesterday,
12 we are now discussing wildlife disturbance, and the proced-
13 ure is that a staff member reads in a statement, a prepared
14 statement on what the issue is, and we then ask our advisors
15 off on our left here, to give us their impression of the
16 issue, and advise us on how severe the issue is and how
17 well it's been treated by Foothills.

18 In between the time that it's
19 written in and we receive advice, we receive a statement
20 from Foothills on how they have approached the subject.

21 We have been asking the
22 advisors to ask questions of clarification of Foothills,
23 simply to ensure that their brief, or advice to us is, in
24 fact, secure.

25 We are in the process of
26 discussing wildlife disturbance, and we heard Mr. Retfalvi

1 yesterday. I believe you were through in your presentation,
2 were you, Mr. Retfalvi? Yes, and it's Mr. Taylor now,
3 is it, Mr. Romaine?

4 MR. ROMAINE: Mr. Taylor
5 is here strictly for questions and clarification, so I
6 don't believe he has a particular comment to make at this
7 time.

8 MR. CHAIRMAN: Fine, then we
9 will move down to Mr. Klassen then of the Y.T.G. Game
10 Branch.

11 MR. KLASSEN: Thank you.
12 Our submission here this
13 morning will take the form of short statement followed by a
14 few questions by Mr. David Westworth on my left, who has
15 been employed by the Yukon Wildlife Branch for the purpose
16 of gathering data concerning furbearers. He will direct
17 those questions to the Foothills' panel, and then I'll
18 follow that with a short summation statement.

19 In the Yukon Territory, trap-
20 ping activity falls into two distinct categories that
21 appear to represent basic differences in furbearer utilizat-
22 ion. By and large, white trappers are sensitive to market
23 prices, and gear their trapping activities accordingly.
24 Native trappers, on the other hand, are far more active
25 during the spring months, and their harvest consists pre-
26 dominantly of those furbearers which were traditionally



1 harvested for food and clothing, prior to the arrival of
2 white men.

3 In fact, the spring muskrat
4 and beaver harvests appear to be as much a social event as
5 an economic activity. In this light, it becomes obvious
6 that trapping is both an economic and social activity in
7 the Yukon Territory.

8 As such, one must not evaluate
9 the impact of the proposed development on this industry by
10 using only economic parameters.

11 I'll now ask Mr. Westworth
12 to continue with his questions.

13 MR. WESTWORTH: I have several
14 questions that I would like to ask Foothills, but first
15 perhaps, I would like to clarify a point made by Mr. Lowe
16 yesterday.

17 Mr. Lowe, you mentioned that
18 you considered 45 trap lines would be affected by the pro-
19 posed pipeline route, and I was wondering how you arrived
20 at that figure?

21 MR. CHAIRMAN: Mr. Lowe?

22 MR. LOWE: I got that from
23 the Wildlife Branch on potential trap lines crossed,
24 and possible downstream effects through wetland complexes.

25 There's a master map on the
26 furbearer biologist's wall that has all the trap lines on

1 it.

2 MR. WESTWORTH: I see. Did
3 you determine, what criteria did you use for determining
4 which ones would be affected? Was it pipelines that were
5 just directly crossed by the line, or --

6 MR. LOWE: Yes, where the
7 proposed route was, and if there was a stream down, crossing
8 the route, a potential influence on the other side of the
9 Alaska Highway as well.

10 MR. WESTWORTH: I see. The
11 reason I asked the question is we felt that slightly more
12 trap lines would be potentially affected by the development,
13 including, as you say, ones that could be affected by
14 drainage disruption, or noise that was kind of adjacent to
15 the, but not touching on the pipeline.

16 MR. LOWE: That was very
17 immediate, very immediate.

18 MR. WESTWORTH: Yes. We
19 feel that perhaps 60 trap lines could be affected in one
20 way or another.

21 MR. LOWE: It's quite
22 possible.

23 MR. WESTWORTH: With regard
24 to the questions to Foothills, Mr. Bouckhout, currently in
25 the southern Yukon, 12 species of furbearing mammals are
26 commercially harvested. These include beaver, muskrat,

1 otter, mink, lynx, marten, squirrel, wolverine, weasel,
2 coyote, fox and wolf. Scientific data on abundance and
3 distribution do not exist for any of these species along
4 the proposed route.

5 In the first session of hear-
6 ings, however, you indicated that your investigations would
7 be limited to the aquatic species, beaver and muskrat.
8 Several of the others have an economic value greater than
9 beaver and muskrat, so I'm interested in your basis for
10 prioritizing the species to be studied.

11 MR. BOUCKHOUT: I'll hand
12 that question over to Mr. McLaughlin.

13 MR. MCLAUGHLIN: The reason
14 for prioritizing the importance of these species was primarily
15 our concern for aquatic habitats. We felt that the impact
16 on non-aquatic habitats would be less severe, and so there-
17 fore we decided to concentrate on the aquatic species.

18 MR. WESTWORTH: I see. What
19 support do you have for the theory that beaver, and muskrat
20 say, would be more sensitive to the disturbance than some
21 of the other species?

22 MR. BOUCKHOUT: I might begin
23 to answer that, Mr. Westworth. Strictly in relationship to
24 the potential for habitat disruption, per se, site specific
25 habitat destruction and protracted effects of such things
26 as siltation, spills of toxic chemicals, these kinds of

1 things which could move in an aquatic system and extend
2 over a considerable area. I'm going to leave it at that
3 and give it back to Mr. McLaughlin.

4 MR. MCLAUGHLIN: I have no-
5 thing further to add to that at the moment, Mr. Westworth.

6 MR. WESTWORTH: Okay, just
7 dealing with aquatic eco-systems then --

8 MR. BOUCKHOUT: Perhaps just
9 a point of clarification. This is not to indicate that
10 such species as wolves and bears and so on are not taken
11 into account. We recognize site specificity of important
12 areas such as denning sites, which are very important in
13 these -- again, we are, in our group, looking at the
14 resource and the protection of the resource, and not placing
15 nearly as much emphasis on the utilization of the resource.

16 So we feel that if one is
17 able to protect the resource, then the potential problems
18 with respect to utilization thereof are effectively miti-
19 gated as well, although interruption of utilization in the
20 short term is still possible.

21 MR. WESTWORTH: Your criteria
22 then weren't one of economic importance?

23 MR. BOUCKHOUT: No, I don't
24 believe they were. I believe, as Ron has stated, the
25 criteria were more allied to potential for disruption. In
26 other words, in general, sensitivity rather than strictly

1 economic importance. These are the same kinds of general
2 criteria we have been speaking about with respect to fish,
3 for instance.

4 MR. WESTWORTH: I can
5 appreciate your concern for the integrity of the aquatic
6 eco-systems, but I'm a little puzzled why you would select
7 beaver and muskrat, which are relatively more tolerant than
8 species at a much higher trophic level such as otter
9 and mink, which could be potentially affected by a disturb-
10 ance to a much greater range of aquatic life.

11 MR. BOUCKHOUT: Again, it's
12 a matter of maintenance of the integrity of the aquatic
13 eco-system. Certainly, otter and mink are as well asso-
14 ciated with that system, and therefore, we view it as a
15 priority to, and this has been discussed earlier, to maintain
16 natural drainage patterns, to avoid disruption of rate
17 complexes, riverine complexes, and thereby avoid protracted
18 long term impact on the resource, which exists on the
19 physical base.

20 MR. WESTWORTH: I see, but
21 you're not actually making an attempt to determine the
22 abundance of these other species?

23 MR. BOUCKHOUT: No, I don't
24 believe we are. We are going to be, particularly this fall,
25 making an assessment with respect to beaver and muskrat.
26 Our other surveys include consideration of bear and wolves

1 but we have no intent, at present, of making an assessment
2 of population abundance of such species as mink, otter,
3 et cetera.

4 MR. WESTWORTH: I see. I
5 might just briefly say that our concern stems from the fact
6 that species such as lynx and marten are actually of greater
7 economic importance, although beaver, and muskrat are of
8 considerable local importance.

9 As the report tabled by Mr.
10 Archibald indicates, they have social implications that
11 don't extend to some of the upland terrestrial types of
12 furbearers.

13 MR. BOUCKHOUT: Yes sir, we
14 appreciate that fact. Again, our emphasis is directed by
15 what our biologists consider the relative sensitivity of
16 the species, rather than the inherent economic value of the
17 species.

18 MR. WESTWORTH: Okay, I'll
19 go onto my second question then. You mentioned your intent-
20 ion to restrict firearms in camps to control killing of
21 game animals. Have you considered the potential problem
22 of poaching of furbearing animals? This is already a
23 problem in the Territory, and we foresee that it could
24 become more of a problem in areas where local residents
25 are employed in pipeline work, and in areas where diver-
26 gences occur into formerly inaccessible areas.

1 MR. BOUCKHOUT: No sir, I
2 don't think we have considered the topic of potential for
3 poaching.

4 MR. WESTWORTH: Thank you.
5 With regard to construction scheduling, you made reference
6 earlier to the need to provide ecological windows for
7 certain species of ungulates and fish. Do you feel that
8 any of the furbearing mammals require similar consideration?

9 MR. MCLAUGHLIN: Would you
10 repeat the question please, Mr. Westworth?

11 MR. WESTWORTH: Yes, I'm
12 asking whether you feel it's necessary to provide windows
13 for critical periods in the life history of certain species
14 of furbearing animals, similar to ones that you suggested
15 for ungulate mammals or fish?

16 MR. MCLAUGHLIN: It is my
17 opinion that if a specifically sensitive period was deter-
18 mined, yes, then there would be a case for arguing for a
19 window.

20 MR. WESTWORTH: What do you
21 feel the sensitive periods would likely be for these
22 mammals?

23 MR. BOUCKHOUT: Excuse me,
24 Mr. Westworth, before I give it back to Mr. McLaughlin,
25 certainly timing constraints would be appropriate in such
26 cases as significant activity in the immediate vicinity of

1 wolf dens, as an example, bear dens as another example.
2 We would hope that our alignment could avoid such sites
3 by a significant or sufficient distance that such timing
4 constraints may not be necessary, but if it could not,
5 then the timing constraints in relationship to these kinds
6 of subjects would be warranted.

7 MR. WESTWORTH: All right,
8 I'm in total agreement that the natal and post-natal denning
9 periods are probably the most critical for these animals.
10 I was trying to get a little more information on which
11 species you feel would be affected by this, and what you are
12 doing to identify areas where windows should be provided.

13 MR. BOUCKHOUT: I would think,
14 Mr. Westworth, those in particular, again with reference to
15 sensitivity, we view once again the aquatic eco-systems as
16 a unit of significant concern. The control of aquatic
17 systems and drainage in general, is one which is relevant,
18 not only to environmental matters, but also to pipeline
19 integrity, and physical matters, including such topics as
20 slope stability.

21 We feel that by initial
22 judicious location of the line, and thereafter, adequate
23 design to maintain the aquatic systems, and maintain normal
24 drainage patterns, that beyond those efforts, a great deal
25 of timing constraints with respect to animals utilizing
26 aquatic systems, should not be necessary.

1 MR. WESTWORTH: In determining
2 the need to provide ecological or construction windows for
3 animals, have you considered such factors as differences in
4 reproductive capability and the tendency of certain species
5 to maintain alternate den sites, or whether newborn young
6 are precocious or altricial.

7 MR. MCLAUGHLIN: Mr. West-
8 worth, I'm going to have to ask you to repeat that question,
9 please.

10 MR. WESTWORTH: What I am
11 trying to determine are what the factors are that you're
12 considering in assessing the need to provide windows during
13 critical life periods for furbearing animals? Some of the
14 factors that we feel might be important are the reproduct-
15 ive capability.

16 For example, effects of den
17 disturbance on muskrats, say, that at this latitude, have
18 probably two litters per year, with an average litter size
19 of about 7, and begin breeding during their second year
20 of life, could be relatively less than marten, for example,
21 which may not breed until their third year of life, and
22 have a single litter with litter size of about two to
23 three.

24 Also, a species where
25 the young are born in a helpless state, would be relatively
26 more sensitive to disturbance than ones that are not.

1 It's a matter of interest, I think, that I think every fur-
2 bearer, every important furbearer along the route, has young
3 that are born in an altricial state, which means that
4 they're relatively more subjected to disturbance during the
5 neo-natal period than species that are not, that this does
6 not occur.

7 MR. MCLAUGHLIN: Once again,
8 Mr. Westworth, I think that most of our concerns have been
9 addressed to the problem of habitat preservation, parti-
10 cularly of these aquatic furbearers, and we feel that by the
11 employment of the appropriate safeguard measures, as Foot-
12 hills has outlined, that most of these problems will be
13 mitigated.

14 We also are quite concerned
15 about the possibility of disturbance of grizzly bear dens.
16 We are aware of this problem.

17 MR. WESTWORTH: All right, I
18 won't dwell on it any longer. What we were attempting to
19 show is that while we acknowledge that habitat disruption
20 is a major importance, these other factors may well be
21 important too, and particularly some consideration of
22 terrestrial eco-systems is warranted.

23 My next question, we've
24 become aware that a serious problem involving scavenging
25 mammals developed during construction of the Alyeska pipe-
26 line. I'm concerned that similar problems could occur

1 here. The problem essentially involves scavenging at waste
2 disposal areas, and feeding of animals by pipeline personnel.
3 Some species become habituated to feeding which inevitably
4 results in human/animal conflict.

5 The problem in Alaska was
6 particularly acute with respect to bears and wolves, which
7 resulted in the number of cases of human injury, and con-
8 siderable destruction of wildlife.

9 Perhaps Mr. Roberson could
10 describe the Alaskan experience in more detail, and comment
11 on some of the ways that he feels might be effective in
12 preventing it.

13 MR. ROBERSON: Mr. Chairman,
14 the difficulties are fairly accurately described in relation
15 to Alyeska's work. I believe I would modify it only
16 slightly in that the waste disposal sites, the true waste
17 disposal sites were incinerated waste, and did not, in
18 themselves, become a problem.

19 The waste disposal that was
20 a problem was that of a busload of so-called pipeline
21 workers, we have a somewhat derogatory term for those
22 workers at this point, but throw their lunch sack out of
23 the window of the bus. So, 20 or 30 lunch sacks on the
24 ground becomes, in effect, a waste disposal of modest
25 size, and if this progression under construction activities
26 is continuous, the requirement is mostly one of simply

1 requiring immediate clean-up. It's not an item that cannot
2 be taken care of, it can be a problem.

3 The other difficulty in
4 camps, whether they be pump stations or construction camps,
5 most of the camps where there were significant bear inter-
6 actions, wolf interactions, and it was not just grizzly
7 bear , black bear , fox, I think yesterday wolverine was
8 mentioned. That, to my knowledge, was never an occurrence,
9 although coyotes, foxes, wolves, et cetera were.

10 The fencing procedures were
11 effective on most of those species, but not entirely, in
12 that with gates open, a considerable attraction, it became
13 simply the procedures in so-called garbage handling. The
14 workers until late in the Alyeska experience, there was
15 no penalty for feeding or attracting these animals.

16 The Department of Fish and
17 Game, late in that experience, made it illegal, and thus
18 punishable by fine, to do so, and much of the problem was
19 disposed of in that manner.

20 The company structure was
21 able to deal with it, to some extent, but it was dealt with
22 after this had been occurring for some time. Were it
23 started with the proper attitude, I think it could have
24 been minimized considerably from what it was.

25 The number of human/bear or
26 wolf activities, in which there were injury, are relatively

1 minor, considering the mass of the project, 20 some thousand
2 people, for off and on during several years. Really,
3 probably that consideration is the minor one.

4 The greater one, which I
5 think everyone here should be aware of, the attitude which
6 I would suggest Foothills or any other company should employ,
7 the people must know that tranquilizing a bear and hauling
8 them off 50 or 100 miles is no solution, and in that most
9 problem bears, particularly black bears, eventually have to
10 be destroyed.

11 Thus, by education, I believe
12 much of that problem can be cured, and that by feeding the
13 bear, they're not doing it a favour, they are more or less
14 committing its death sentence, and I would advocate that
15 that concern be taken care of in that manner.

16 Fencing in some concentrating
17 areas, I'm sure, would probably be necessary to keep the
18 difficulty down, but in the Valdez terminal, for instance,
19 wintertime snow depths exceed even the high fence areas;
20 in the spring, they come out and walk over the fence on the
21 snow, so you must deal with specific locale considerations
22 in advocating a fence. The fence is only as good as its
23 integrity.

24 I hope that answers your
25 questions. If you have more, I'll be glad to deal with
26 them.

Mr. Westworth
Mr. Klassen
Dr. Theberge
Mr. Bouckhout

1375

1 MR. WESTWORTH: Thank you very
2 much, Mr. Roberson.

3 MR. KLASSEN: Mr. Chairman,
4 Dr. John Theberge, who is also a temporary employee of the
5 Wildlife Branch, would like to address a question.

6 DR. THEBERGE: I guess you're
7 aware, Mr. Bouckhout, that there's no legal requirement in
8 the Yukon at present, for fencing of garbage dumps, or in
9 some people's personal view, including myself, adequate
10 bear management around existing camps and facilities. So
11 if we're talking about regulations similar to the Alaskan
12 situation, of fencing, attempting to fence with bear-proof
13 fencing, garbage dumps, Foothills would be doing more than
14 is presently required by communities in the Yukon.

15 Would Foothills, however, be
16 willing to do that?

17 MR. BOUCKHOUT: Yes sir, we
18 would. We have not indicated so on our plans to date, and
19 it was entirely an oversight on my part, but that certainly
20 would be done.

21 I might additionally add that
22 we speak of garbage dumps, what generally is in these dumps
23 are non-food items. Our camps will be equipped with incin-
24 eration facilities, and food items will be incinerated
25 daily, so that by this mechanism, we are hoping to avoid
26 as much as possible, the attraction to campsites in this

1 manner, but we recognize that it still will occur, although
2 probably at a much lesser frequency, and in that respect
3 then, the consideration of fencing of sensitive areas where
4 such materials may be stored, or could serve as attractants,
5 would then be a viable solution.

6 MR. KLASSEN: Mr. Chairman,
7 the question of scavenging by mammals is one that we have
8 addressed in our brief, and there is a section in there
9 that you may want to refer to.

10 MR. WESTWORTH: We're aware
11 that scavenging associated with construction camps, might
12 not only be associated with the dump, but that all animals
13 may be attracted by odours from camp kitchens, say.

14 I was wondering if Mr.
15 Roberson could comment on whether in his experience, fencing
16 of camps, entire camps, would be a better solution than
17 just fencing dumps?

18 MR. ROBERSON: In relation
19 to that subject, our experience with the incinerated waste
20 from the camps by locating sufficiently far, first of all
21 from the camp, and if there was an attraction, it would
22 not lead to the bears coming to the camp.

23 There was not, to my knowledge,
24 any significant attraction to the waste disposals, and it
25 was incinerated waste, so fencing of the waste disposal
26 site, I would have to suggest is probably not only

1 unnecessary, it would probably be of little consequence.

2 The fencing of the camps,
3 probably the much more likely successful item in areas that
4 you may have concentrations of particularly, I think the
5 black bear south of the Yukon River, in Alyeska's exper-
6 ience, and more so, the grizzly bear north, but -- and the
7 wolf primarily north of the Yukon.

8 There were incidences, and
9 again, it was mostly related to personnel management more
10 so than anything else, in that there was deliberate
11 attraction of these animals. It was not inadvertent
12 attraction, but deliberate, that caused most of the diffi-
13 culty, and that can be cured by appropriate company policy,
14 I believe.

15 MR. WESTWORTH: Assuming
16 that the tendency to feed animals is, to some extent,
17 inescapable, have you any experience on means that might
18 be employed to discourage animals that become habituated,
19 once the pipeline construction is finished?

20 MR. ROBERSON: Pipeline
21 construction completed, I am going to deal with that and
22 hopefully answer your question.

23 There was attempts to
24 use ametics, which are simply causing animals to have
25 cases of the runs. There was attempt to do the tranquil-
26 izing and displacement, which is for the most part,

1 ineffective with bears.

2 A number of other items,
3 the camp occupation time, as I understand Foothills' pro-
4 ject, Alyeska's occupation time of most camps was far
5 longer than will be the case in this construction, in that
6 there was fully two and sometimes three years of essentially
7 continuous operation of those camps.

8 So I think the attraction
9 became accumulative, and in that respect, may be a lesser
10 problem with the project here. In terms of taking the
11 animals back to their natural situation when -- removal
12 of the camp, simply clean up the camp, the critters, if
13 they have been attracted, will disperse.

14 We have camps now that even
15 though the buildings are there, unoccupied, there seems to
16 be no difficulty, so it's during actual use of the camps,
17 and kitchen odours, probably -- and the day-to-day accumulat-
18 ion of garbage that has not been incinerated, plus the
19 attraction by, you know, the deliberate feeding, I would
20 see as the great problems.

21 Fencing will cure much of
22 that, and company policy, the remainder. I think as the
23 project of Alyeska went along, all but a few places were
24 very readily cured when problems came up. The attitude
25 that was allowed to start, I think, is the real problem,
26 that emphasis of a non-feeding policy, had it been

1 instigated at the beginning of the project, would much more
2 readily have dealt with the problem than anything else that
3 was instrumented later.

4 DR. THEBERGE: Could I
5 comment about some testimony given yesterday that indicated
6 that we have a very narrow margin of safety regarding grizzly
7 bears in the southern Yukon, and in our brief we have
8 suggested that consideration would not be sufficient, but
9 fencing would be necessary of garbage dumps, and partly
10 our rationale is that we just don't have a margin of error
11 to lose grizzlies on that account.

12 MR. BOUCKHOUT: I might fur-
13 ther comment in that respect, that with regard to specific
14 measures, including fencing the camps, we would hope to
15 co-operate with the Wildlife Branch in determining where
16 such measures are particularly necessary to avoid such
17 problems, and one, Dr. Theberge, which you just mentioned
18 would be an obvious one, and we would undertake to fence
19 the camp in that area, in addition to other measures which
20 have already been discussed, with respect to attempts to
21 mitigate the human/wildlife interaction.

22 MR. WESTWORTH: Okay, well
23 perhaps I can go onto my final question. It relates to
24 pipeline surveillance.

25 We've talked previously about
26 aerial surveillance of the pipeline, and I'm wondering

1 whether you can indicate to what extent ground surveillance
2 techniques would be used, either instead of or supplementary
3 to aerial surveillance; and also, what types of vehicles
4 would be employed for any ground surveillance?

5 MR. BOUCKHOUT: We would
6 definitely employ some ground surveillance during the time
7 period immediately after construction. The rationale for
8 this is particularly to permit a very close assessment of
9 the right-of-way, so that immediate problems can be
10 detected before they become aggravated. By such things,
11 I'm thinking particularly in terms of the facilities
12 installed for drainage control, the revegetation success,
13 any slope movements, potential slope failure we'll be
14 dealing with, so we will definitely have a considerable
15 amount of ground surveillance immediately after the pipeline
16 is installed.

17 This will decrease with time,
18 and during normal operation, I would expect the ground
19 surveillance would be very infrequent, and by infrequent,
20 I would think perhaps we may have ground surveillance on
21 portions of the system in the order of two or three times
22 per year.

23 With respect to equipment,
24 ground surveillance would entail either actual walking by
25 the personnel involved, particularly those who may be doing
26 assessments of revegetation effort, revegetation success,

1 otherwise appropriate vehicles would be used, and since we
2 do not intend to provide nor maintain a permanent road
3 along the right-of-way, which is capable of supporting
4 conventional two-wheel drive pickups, although in some
5 cases, certainly four wheel drive pickups may be able to
6 negotiate the right-of-way, we would then lean toward
7 utilization of such small scale equipment as ATV vehicles,
8 all terrain vehicles for these purposes.

9 MR. WESTWORTH: Thank you.

10 One of the problems that I'm sure of which you are aware
11 is the problem of disturbing the terrain surface soon after
12 revegetation by surface vehicles.

13 One other related question,
14 I assume that the need to provide access for pipeline main-
15 tenance, as well as ground surveillance, are responsible
16 for your stated requirement of a 60 foot right-of-way
17 following initial placement of the pipe. Could you comment
18 a little further on that, please?

19 MR. BOUCKHOUT: I'm sorry,
20 Mr. Westworth, you were asking what is the rationale for
21 the 60 feet? The 60 feet is particularly conditioned
22 with respect to the maintenance of a cleared area of suffi-
23 cient size to permit vehicles to negotiate the right-of-
24 way, which may be necessary for repair operations, in
25 particular.

26 If we do encounter any problems

1 with, for instance, slope stability, which may require the
2 placement of rip-rap, if we encounter any problems in our
3 normal surveillance of the pipeline, as was mentioned
4 yesterday done by what is called in the industry "smart
5 pigs", which is a device which is put inside of the pipe,
6 and this would require that a section of pipe must be
7 replaced, then the kind of equipment necessary in that
8 case is generally of a relatively large nature, and in con-
9 ventional terms then, we maintain in pipeline rights-of-way,
10 in the order of 60 feet as a permanently cleared area.

11 When I say "cleared", I
12 don't mean that shrubs, necessarily, would not be allowed
13 to come back, certainly they would, and the surface mat
14 vegetation would be allowed to come back, but we would dis-
15 couarge the growth of large trees on that area.

16 MR. WESTWORTH: Thank you.
17 What I was getting at is I was wondering whether the
18 eventual right-of-way could, in fact, be reduced to say, 30
19 feet, to satisfy these purposes?

20 MR. BOUCKHOUT: I can't speak
21 from experience in operating pipelines, but I would suspect
22 that if this were necessary in certain select areas, or
23 desirable in certain select areas, this would be a possi-
24 bility.

25 MR. KLASSEN: Thank you.

26 Mr. Chairman, Mr. Westworth

1 made reference to a report that we intended to table, and
2 I overlooked it when I read that initial statement. The
3 report is one prepared by Yukon Wildlife Branch staff, and
4 it's entitled "The History, Development and Present
5 Direction of the Fur Industry in the Yukon Territory", and
6 we will only have one copy here and we will give that to
7 the panel.

8 In summing up our concerns
9 about the interruption of trap lines, I'll read this brief
10 statement.

11 Direct impact on trapping
12 activities associated with the construction of a gas pipe-
13 line include the destruction of trapping trails, the
14 destruction of cubbies or other traditionally used sets;
15 a decrease in trapper productivity, attributable to noise
16 or activity relating to actual construction during active
17 trapping periods.

18 Even in the event that
19 pipeline construction is timed so as not to coincide with
20 the trapping season, a decrease in trapper productivity
21 may be expected as a result of winter recreational usage
22 of the pipeline right-of-way.

23 Habitat alteration and loss
24 as a result of pipeline construction, will also affect
25 trapper productivity. If the integrity of watersheds are
26 not preserved, then changes in the abundance and distribution

1 of aquatic and semi-aquatic furbearers may be expected.
2 Habitat loss will occur through right-of-way clearing,
3 trenching, backfilling and location of access roads,
4 construction camps, storage sites and compressor stations.

5 The immediate response will
6 be a displacement of all animals using these areas prior to
7 construction. The effects of displacement will vary with
8 the population density, and the ability of resident animals
9 to withstand reductions in their home ranges.

10 Marten are not expected to
11 make use of the cleared corridor, although population
12 levels of small mammals may eventually approach levels in
13 adjacent undisturbed habitats, the species composition will
14 change. Redback moles, the preferred prey species for
15 marten will be replaced by other species.

16 Forest fires caused through
17 pipeline construction hold considerable potential for
18 affecting furbearers through loss of food supplies and
19 changes in the diversity and structure of the prey complex
20 of all predatory furbearers. These concerns are even more
21 serious in the case of those species requiring mature
22 climax forest types.

23 Areas affected by fire will
24 essentially lose their capability for squirrel and marten
25 for a length of time equivalent to the normal forest
26 regeneration period. Physical damage or disturbance during

1 denning activities may cause direct mortality, particularly
2 where it occurs during natal or post-natal periods.
3 Compaction by equipment, removal of riparian vegetation,
4 and erosion of exposed slopes, may also result in abandonment
5 of traditional denning areas.

6 Edge effect, resulting from
7 opening the forest cover and subsequent revegetation of the
8 right-of-way, will result in an increase in biomass production
9 of snowshoe hares and certain species of birds, which
10 could benefit the lynx populations.

11 These conclusions, however,
12 are largely speculative. Sufficient information is not
13 available to accurately predict the effects of pipeline
14 clearing on the predator/prey complex of boreal eco
15 systems.

16 MR. CHAIRMAN: Thank you.
17 Would you like to comment, Mr. Bouckhout?

18 MR. BOUCKHOUT: Just one
19 very brief comment on, I believe, the last point that
20 Mr. Westworth brought up with regards to rationale for
21 the width of the right-of-way. Someone just reminded me
22 that in addition to those things which I mentioned, the
23 right-of-way also acts as a firebreak in case of either
24 a fire resulting from a non-project related cause moving
25 in the area, or in the unlikely event that a rupture on
26 our own line might occur. In other words, it acts as a

1 natural firebreak, with the line in the centre giving you
2 in the order of 30 feet either side for your immediate fire-
3 break. This is another rationale for maintaining a per-
4 manent right-of-way in this order.

5 MR. WESTWORTH: Would your
6 concerns then be related to possibilities of fire during
7 pipeline construction, or subsequent to the pipeline being
8 placed in the ground?

9 MR. BOUCKHOUT: They would
10 be both, particularly during construction, but in the long
11 term operation of the pipeline, that would also be a con-
12 sideration, as we have already mentioned here and discussed,
13 previous experience the potential for such an occurrence
14 is extremely remote, but the potential nonetheless is still
15 there.

16 MR. WESTWORTH: Thank you.
17 The reason I raised the question was that species such as
18 marten are apparently not disturbed to a great extent by
19 seismic lines which are 30 feet wide, but there is some
20 evidence that their normal movement patterns are disrupted
21 by wider openings, and I was wondering whether the problem
22 could be alleviated by reduction in the final right-of-way
23 width.

24 MR. BOUCKHOUT: Just one
25 quick point in that respect. As I said, the right-of-way
26 is not maintained in a tabletop condition, with absolutely

1 no growth on it. There is shrub growth on existing rights-
2 of-way and it's allowed to take place.

3 It's the mature tree cover, and
4 large tree cover that is discouraged. I believe Mr. Rober-
5 son may have a couple of remarks to make as well.

6 MR. ROBERSON: Mr. Chairman,
7 most specifically to the actual trapper/trap line inter-
8 action with the right-of-way, in that with Alyeska's exper-
9 ience to this point, we have found, if anything, an extension
10 of trap lines or trapping effect linearally to the tune of
11 800 miles of pipeline, of new trap line that they're in
12 effect using the line itself as a trap line, and those that
13 are perpendicular or obtuse to the line, we've had no
14 reported objections, other than that they are allowed to
15 cross that right-of-way.

16 In other words, influence on,
17 let's say their take, their normal business of going about
18 their trapping has not been influenced that's been
19 reported to us, or is observable to us. That's not to say
20 that interactions because of right-of-way might not occur
21 but the appearance of the social and economic aspect of it,
22 if anything, we have been using the right-of-way itself,
23 as well as the access roads, and that they're not ploughed
24 in the wintertime at this point in time anyway, and the
25 trapping goes on virtually unaffected, as best we can tell.

26 MR. KLASSEN: We have no

1 further comments now on the aspect or the topic of trap
2 line interruption.

3 Are we to respond at this time
4 to sensitivity of timing of construction and aerial surveil-
5 lance?

6 MR. CHAIRMAN: Yes, please,
7 but before you do, I'll ask the panel if they have quest-
8 ions. You opened up quite an area of discussion.

9 Mr. Wykes?

10 MR. WYKES: I was wondering
11 whether or not the trap lines that possibly could be
12 affected, which I understand might be between 40 and 60
13 trap lines, whether or not there might be trapping permitted
14 on the pipeline right-of-way, following, you know, when
15 it's in an operational mode?

16 MR. BOUCKHOUT: Yes, Mr.
17 Wykes, I believe from our perspective, that trapping would
18 be permitted on the right-of-way.

19 MR. WYKES: Thank you.

20 MR. CHAMBERS: I think my
21 question is to Mr. Westworth, or Mr. Klassen. In your
22 questioning of Foothills in their adequacy of data, there was a
23 mention of I think in the aquatic systems, both mink and
24 otter as having some economic significance, and I was
25 wondering what that was.

26 From the report, it wouldn't

1 appear that way to me. I'm wondering if you would clarify
2 that point?

3 MR. KLASSEN: I believe we
4 have some information on that, if you'll just bear with us
5 for a moment.

6 MR. ARCHIBALD: Yes, Mr.
7 Chambers. In regards to mink, although the present harvest
8 levels are considerably lower than they were at one time,
9 the Game Branch feels that this particular species still
10 has the potential, if exploited to the full extent, to be
11 one of the more valuable furbearers in the Yukon.

12 In regards to otter, there
13 really isn't much of a trapping effort on the part of
14 Yukon trappers to actively take otter, and the harvest,
15 although low, seems to be stable around 50 animals, and
16 they're probably only economically important to those
17 trappers that actively harvest them.

18 MR. CHAIRMAN: Would you
19 please identify yourself for the record?

20 MR. ARCHIBALD: Oh, Ralph
21 Archibald.

22 MR. CHAMBERS: So, taking
23 from that, is the concern not one of economic loss in that
24 one particular construction period, and trap line disrupt-
25 ion, but rather a loss that may be reflected permanently
26 in loss of habitat and the population of mink would not

1 regain its original or previous status in numbers?

2 MR. ARCHIBALD: I'm not sure
3 I follow your question, Mr. Chambers.

4 MR. CHAMBERS: Well, from your
5 report, what statistics I can find out of your report here,
6 says something like an average of ten mink per year have
7 been reported harvested over the pipeline length, and there
8 was some indication that they had some economic importance.

9 Now, I am wondering, was the
10 concern expressed of their economic importance then because
11 of the permanent loss of habitat, which supposedly would
12 reflect in a permanent loss of population numbers, sort of
13 an indefinite period, or is it the loss of the harvestable
14 mink in that one particular year of trapline disruption or
15 whatever?

16 MR. ARCHIBALD: Before I hand
17 it over to Dave, I perhaps should say a couple of things,
18 and one is that the harvest statistics that have been made
19 available to the panel, are based on trapper affidavits,
20 that's the only area specific source of harvest data that
21 we have, and for a number of reasons those data are
22 unreliable at best, and maybe misleading, so I don't think
23 you can use the statistics that are there as representative
24 truly representative of what is going on in terms of
25 trapping activity, along the pipeline right-of-way.

26 Perhaps I'll let Mr.

1 Westworth respond to the other aspect of that question.

2 MR. CHAIRMAN: Before he does,
3 in this regard, is there any total mink sales data? For
4 instance, do you keep any records on the total pelts
5 exported from the Yukon?

6 MR. ARCHIBALD: Yes, most of
7 the fur that, by far the majority of the fur that's trapped
8 in the Yukon is disposed of in southern auctions, and we
9 have reliable data on the number of pelts of each species
10 that leave the Yukon, through export permits.

11 MR. CHAIRMAN: How many
12 would there be for mink? Have you got the data handy?

13 MR. ARCHIBALD: Yes for 1975-
14 76, there were 77 mink exported from the Yukon Territory,
15 and -- excuse me for a moment here. Unfortunately, I don't
16 have the harvest statistics for this species, dating back
17 to prior to 1950 when trapping really was the mainstay
18 for the majority of the people / ⁱⁿ the Yukon Territory.

19 But if memory serves me
20 right, the annual harvest of mink was between 2 and 5,000
21 animals on a sustained level, but I can check the records
22 and make that information available to you.

23 MR. CHAIRMAN: Well, it's
24 fine, the general figure serves the purpose.

25 I was wondering what the
26 level of trapping was, the sustainable yield of mink

1 happened to be what we were talking about, would appear to
2 be -- the harvest potential would appear to be a great deal
3 higher than the actual pelts taken from the figures you
4 give, is that correct, an underexploited resource.

5 MR. ARCHIBALD: Yes, that's
6 true, for a number of reasons.

7 First of all, as I said,
8 prior to 1950 in the Yukon, trapping was the mainstay, and
9 since that time, for a number of social and economic
10 reasons, trapping has decreased in importance in the Yukon
11 Territory.

12 As Mr. Klassen said in his
13 initial brief, trapping activity is geared, it's either
14 directed economically, as in the case of most white
15 trappers, and specifically they're trapping lynx and marten,
16 and in the case of our native trappers, by and large, they're
17 gearing their activities to species that are socially
18 important to demand.

19 Animals that they traditionally
20 trapped before white man arrived on the scene for food and
21 clothing, and these include squirrel, marten -- squirrel,
22 beaver and muskrat.

23 In this report that we've
24 tabled today, there's an assessment of trapper effort that
25 will bring this to your attention, so as you can see, there
26 are a number of species that are available for exploitation,

Mr. Klassen
Mr. Trevor
Mr. Westworth

.1393

1 that there's no trapper effort directed towards right now,
2 and mink and otter are two of these animals.

3 MR. CHAIRMAN: Thank you, Mr.
4 Klassen, Mr. Trevor has a question.

5 MR. TREVOR: Mr. Chairman,
6 it's more in the nature of a comment rather than a question.
7 The panel has had expressed to it, throughout its work,
8 some concern over the forest fire aspect.

9 We have received evidence
10 with regard to the statistics of previous experience, and I
11 would like to state that when you view this in relation to
12 naturally caused fires, the possibility of a forest fire
13 under operations and maintenance is virtually nil.

14 Under the construction phase,
15 due to the capability of detecting a fire immediately, the
16 Yukon Forest Service doesn't regard the construction phase
17 as being any problem either.

18 MR. CHAIRMAN: I believe you
19 had something to say about mink, did you, Mr. Klassen?

20 MR. KLASSEN: No, Mr. West-
21 worth wanted to comment on Mr. Chambers' question.

22 MR. WESTWORTH: Thank you.
23 Mr. Chambers, I just wanted to clarify the earlier discuss-
24 ion about mink and otter. These species were discussed
25 mainly in reply to a question to Mr. Bouckhout, that
26 indicated that muskrat and beaver were being studied

1 because they were species that were most susceptible to
2 disturbance of aquatic systems, and our point was that in
3 fact, probably muskrat and beaver would not be as suscept-
4 ible to disturbance as mink and otter, which represent a
5 higher trophic level, and are more closely tied in to
6 effects that are going to change the abundance of fish,
7 for example.

8 MR. KLASSEN: Dr. Theberge
9 would like to comment.

10 DR. THEBERGE: Following from
11 Mr. Trevor's comment, I may have missed testimony that was
12 given here previously. We recommended on page 20 of our
13 report, it's related to caribou, but in the subject of
14 forest fires, it's applicable, that the Yukon Forest Service
15 impose some sort of guidelines or constraints or operational
16 procedures for the slash burning in the clearing of the
17 line.

18 Has that subject been dis-
19 cussed, and has the Yukon Forest Service indicated its
20 willingness to do that?

21 MR. CHAIRMAN: It's been
22 discussed, but I don't think the Yukon Forest Service has
23 made any comment on it.

24 Mr. Trevor?

25 MR. TREVOR: I think the
26 only comment I could make is that that is standard procedure,

Mr. Trevor
Dr. Hughes
Mr. Klassen

1895

1 and I doubt that the Forest Service would regard this as being
2 any different from any other activity of a similar nature.
3 So that the burning of slash is fully controlled, as a
4 standard procedure now.

5 MR. CHAIRMAN: Dr. Hughes?

6 MR. WESTWORTH: If I could
7 pursue that -- I'm sorry.

8 MR. CHAIRMAN: Dr. Hughes?

9 DR. HUGHES: Mr. Lowe, or
10 perhaps Mr. Westworth, could you provide us with a figure
11 on the number of line miles of trap line that are closely
12 parallel with the highway? To me, the number of trap lines
13 doesn't mean very much, especially if these are trap lines
14 that use the highway as a point of departure.

15 How many of them run, how
16 many line miles run parallel with the highway, and are
17 therefore major, subject to major disturbance?

18 MR. KLASSEN: The answer to
19 that, I guess would be that we do not have figures on
20 linear distances of trap lines set out. The term "trap
21 line" is misleading.

22 In the Yukon Territory,
23 there are registered trapping areas, where a trapper is
24 assigned the exclusive right to take furbearing animals
25 within a given area, the bounds of which are determined
26 or marked out by geographical or topographical features.

1 We do not have a number of the linear distance of trap line
2 miles that would be affected by the Alaska Highway pipeline
3 right-of-way.

4 DR. HUGHES: Thank you.

5 MR. CHAMBERS: I'm not sure
6 who I will direct this question to, maybe yourself or Mr.
7 Bouckhout.

8 I'm still not sure of the
9 answer to the question that had been put to the panel at
10 several of the community meetings about trap line disturb-
11 ance. Can you give me a starting date, and completion date
12 that trappers are on the trap line? On an annual basis,
13 you know -- is it the winter trapping season, or --

14 MR. KLASSEN: Yes, the trap-
15 ping season begins on the 1st of November, and the trappers
16 that I personally am familiar with, if they are at all
17 active, they are out there well before the 1st of November,
18 checking the trails that they cut for the purposes of trap-
19 ping, and ensuring that cubbies and so on are in useable
20 condition, and then, depending on the species, the trapping
21 season may run into June. Although I think as a general
22 rule, it closes on the 31st of March.

23 So they're in the field from
24 perhaps mid-October to mid-April, and then the spring
25 beaver season sees a lot of activity on the -- along the
26 water routes for beaver hunting, and that may run into the

1 10th of June.

2 MR. CHAMBERS: I guess the
3 question is to Mr. Bouckhout. How does this conflict with
4 summer construction versus winter construction? Is there
5 a variance here that winter construction would have much
6 more effect on trap line interruption than summer construct-
7 ion?

8 MR. BOUCKHOUT: I would
9 expect, Mr. Chambers, that with respect to immediate
10 potential disruption, obviously construction in the winter
11 section would thereby have more immediate effect in that
12 particular year than would summer construction.

13 However, to put it in perspective as well, there would be some clearing and right-of-way
14 work done in the winter on those summer construction spreads,
15 so there would be some potential^{for}/disruption during the
16 winter trapping season there as well.

17
18 MR. CHAMBERS: Thank you.

19 MR. CHAIRMAN: Could you
20 explain to me what would happen to, sort of blow by blow,
21 in the disruption of a mink trap line? This was put to
22 us at Teslin, and the lady was concerned about her trap
23 line, was concerned about an interruption in her capability
24 of trapping mink, and I'm not at all clear, I'm not a
25 wildlife biologist, and I'm not clear on how this disrupt-
26 ion would actually take place.

Could you give us a scenario
in a couple of minutes?

MR. KLASSEN: Mr. Westworth
will respond to that.

MR. WESTWORTH: Perhaps I could respond briefly. Established trappers in the Yukon Territory, as elsewhere, make extensive use of established trails and cubby areas. Although it's not legal in the Yukon, trappers in other areas frequently pre-bait these areas to establish use patterns by mink, in particular, and marten.

In the Yukon, these cubby
They're areas
areas are very important areas, that are traditionally used
by mink and marten, and based on a short trip that Mr.
Klassen and I made to Fort Liard to talk to trappers that
were affected by the Pointed Mountain gas pipeline, one of
the concerns that was raised there was that the trappers
were not consulted by the constructing company prior to
initiation of construction, so that many of these cubbies
that still had traps in them were destroyed before they
could be removed.

MR. CHAIRMAN: Thank you.

MR, KLASSEN: Mr. Archibald
would like to comment further.

MR. ARCHIBALD: Maybe Mr. Westworth has answered it to your satisfaction, I don't

1 know, but if this woman was just concerned about the decrease
2 in her trapping productivity, well it could be attributable
3 to either the destruction of sets that Mr. Westworth has
4 indicated, or other variables that are delineated in our
5 submission to the panel.

6 Briefly, these include
7 possible destruction of habitat, and direct mortality,
8 either through disturbance during natal or post-natal
9 periods, destruction of or compaction of traditional den-
10 ning areas, and abandonment of those areas, and that's
11 all that comes to mind immediately, but there are a number
12 of other things that would affect mink trapping, and I
13 think those are pretty well delineated in our report.

14 MR. CHAIRMAN: What percentage
15 of the area that mink would utilize would be affected by
16 the actual pipeline right-of-way disruption?

17 Is it a wide-ranging creature,
18 or is it -- would the pipe construction, clearing of the
19 pipeline right-of-way effectively cut off its range?

20 MR. ARCHIBALD: I have just
21 been advised that the home range of a mink is less than a
22 square mile, so that the immediate effects would be very
23 local.

24 MR. CHAIRMAN: And would they
25 move away during construction, and likely recolonize
26 afterwards?

These are all questions we were asked, and I was unable to answer, of course.

MR. WESTWORTH: Our particular concern there would be to disturbance during the denning period. Mink make extensive use of muskrat burrows as denning areas, and muskrat, as a rule, do not construct alternative dens. There are exceptions, but as a rule, they do not.

So, destruction of denning
areas during the nesting period could be fatal for mink.

MR. CHAIRMAN: Okay, thank you.

Mr. Wykes had a question, I think.

MR. WYKES: First of all, I'm wondering if you would just clarify an assumption I'm making. Do most trappers trap more than one species on a registered trap line, species of animals?

MR. KLASSEN: As Mr. Archibald mentioned earlier, it seems that the white trappers are primarily interested in marten and lynx, and the native segment of the trapping population hunts or traps primarily muskrat, beaver and squirrel, because of the social implications.

So the answer is yes, the trapping effort is diversified, but I have to indicate that

1 that's a generalization. It depends on the individual
2 trapper, and the availability of the species in his trap
3 line.

4 MR. WYKES: Okay, well I'm
5 just trying to build a little scenario in my own mind.
6 Looking at the possibility that there might be a pipeline
7 in the future, the pros and cons and the negative and
8 positive effects to some species of wildlife, and in your
9 report, you mention a possibility that with revegetation,
10 there might be recolonization of the right-of-way by snow-
11 shoe hare, birds and other species, which could possibly
12 be followed by an influx or perhaps more abundance of mink-
13 or lynx in the area, lynx being, I think, one of the most
14 lucrative animals at the present time in terms of a trapper's
15 wallet.

16 I was just wondering if
17 there would be a possibility that some of these things
18 might balance out in terms of the net worth of the trap
19 line?

20 MR. KLASSEN: With regard
21 to that particular example, there's a complication in that
22 lynx populations fluctuate considerably, or the cycle, so
23 that if the peak of the cycle coincides with the high fur
24 prices, then as far as the individual trapper is concerned,
25 the loss that he might take initially, might be eventually
26 balanced by the increase in lynx numbers, owing to the

1 increase in the prey species in that area, as a result of
2 the revegetation.

3 MR. WYKES: Thank you.

4 MR. CHAIRMAN: Would you
5 like to continue then, with your next section?

6 MR. KLASSEN: The subject
7 of sensitivity of timing to construction is one that we've
8 addressed, I think, almost on a species by species basis
9 in the report that we have handed you.

10 In the section on raptors,
11 a few questions are raised that I would like to address to
12 the Foothills panel, if I may.

13 On Page 95, the researcher
14 responsible for this section has outlined a few questions,
15 that's on page 95 of the report. We'd like to know what
16 your definition is, Mr. Bouckhout, of sensitive periods,
17 so far as raptors are concerned?

18 MR. ROWE: Perhaps I can
19 answer that for Mr. Bouckhout.

20 It varies from species to
21 species. As a general rule, the raptors found in the Yukon
22 are sensitive from March about until the middle of August,
23 in terms of their breeding period.

24 Deer falcons would be more
25 sensitive in the early stages of the year, since some of
26 them may be resident in the area and consequently would be

1 initiating their breeding cycle, perhaps as early as late
2 February, early March.

3 The larger raptors have a
4 longer breeding cycle, and they would be the ones that
5 would be sensitive, the latest in the year, probably to
6 about mid-August. That would be just a general statement.

7 MR. KLASSEN: Thank you.
8 Of course, in order to avoid nest sites during the sensitive
9 period, we have to, first of all, delineate locations of
10 all of those nest sites, and that was a point that we made
11 yesterday, so I won't belabour that.

12 With respect to the sensitivity of some of the mammal species to the timing of construction, I'll ask Dr. John Theberge to comment generally
14 on the sensitivity of woodland caribou.

16 DR. THEBERGE: Maybe before
17 I do that, I could read a question raised by Dr. Houghs
18 on page 21 of our brief to you:

19 "According to Foothills' application,
20 such major aspects of the construction as trenching and pipeline will
21 be done in summer in areas of concern
22 to avoid disruption of winter range
23 used by sheep."
24

25 This is commendable. On the
26 other hand, such activities as preparing access roads and

1 river crossings, clearing and grading of borrow areas,
2 compressor station sites and the pipeline right-of-way,
3 and most importantly rock excavations, are planned for
4 the winter. This is difficult to comprehend.

5 Why does, for instance, a D-8
6 Caterpillar involved with the clearing of the right-of-way,
7 not disturb the sheep inhabiting a winter range nearby,
8 while another D-8 involved with the actual laying of the
9 line does?

10 Could I address that question
11 to Mr. Bouckhout?

12 MR. BOUCKHOUT: Yes, what we
13 are dealing with here is a comparison between different
14 levels of activity. We've addressed this kind of thing, in
15 fact, and it would be taken into account in scheduling of
16 all activities, and these activities include not only main-
17 line construction, but also ancillary activities.

18 For instance, we have stated
19 in the Sheep Mountain area, that not only would construction
20 take place in the Sheep Mountain area during the summer,
21 but right-of-way preparation, blasting, et cetera, would
22 also all be restricted to summer in the Sheep Mountain
23 area.

24 In other words, we do not
25 intend, on the one hand, to blast the hell out of the mount-
26 ain in the wintertime, and then go in and install the

1 pipeline in the summer. This would obviously be counter-
2 productive, so we have, in this kind of a case, said that
3 all activity would be concentrated in the summer season.

4 So that where we're dealing
5 with a location of particular sensitivity, we can schedule
6 particular kinds of operations with respect to the project
7 to take into account those periods of sensitivity.

8 Now, in general terms, one
9 obviously must make an appraisal of relative levels of
10 sensitivity, in other words, would a crew of perhaps in
11 the order of 10 to 20 men, utilizing five, six, ten pieces
12 of equipment to clear a right-of-way, create a major
13 disturbance focus in an area to whatever species happened
14 to be in that area.

15 In comparison then to main-
16 line construction activity, where we're dealing with in
17 the order of more than a hundred certainly, perhaps a
18 couple of hundred people in a general location, with very
19 many pieces of equipment and much more intense activities.
20 So/^{you}have to weigh the two and make a consideration as to
21 whether that line clearing kind of activity, which is more
22 akin to line clearing for seismic lines, for instance, it's
23 the same kind of thing, would then create an excessive
24 disturbance.

25 DR. THEBERGE: But I take
26 it from your comments that you are willing, in critical

1 areas, to put all of your activities in the same season?

2 MR. BOUCKHOUT: Yes, sir, we
3 are. In that respect then, our line clearing could be done
4 in two ways; it could be done the previous summer, which
5 is the way we would envision it in the immediate Sheep
6 Mountain area, since a considerable amount of work is neces-
7 sary there, or would be necessary there. In other very
8 small areas, what we could potentially do is clear shortly
9 in advance of construction.

10 For instance, we have already
11 discussed one such situation, where stream banks and steep
12 slopes in high ice content permafrost areas would, in
13 normal circumstances, be cleared immediately prior to
14 construction in those areas, rather than clearing them well
15 in advance and letting them lay that way for a longer
16 period of time.

17 DR. THEBERGE: I can't
18 comment farther regarding sheep, and if the panel wants to
19 hear more discussion on that, Dr. Hough will be here this
20 afternoon.

21 Related to caribou, though,
22 we have some concerns and have tried to document in our
23 brief fairly thoroughly, particularly related to winter,
24 that caribou ecology sort of has it that animals may
25 undergo severe stress conditions, if put out of critical
26 habitats at critical times, and this depends, to some degree,

1 on the snow conditions that the caribou are encountering,
2 and whether when pushed out of -- whether they're confined
3 because of snow conditions, and to be moved out of the
4 particular area, for example, light, fluffy snow, moved out
5 -- in heavily forested area, moved into an open area,
6 could cause them difficulty and more susceptibility to
7 predation.

8 So I have tried to make a
9 case in our brief that we feel that even a small amount of
10 disruption to caribou at a critical time, if it occurred
11 with snow conditions, could be serious.

12 The areas of particular con-
13 cern regarding that, Burwash to Quill, and perhaps, Mr.
14 Bouckhout, you could comment, is that area is scheduled
15 for winter construction, and we have pretty good evidence
16 that at times the Burwash caribou herd move out. This is
17 an area that may or may not be in discontinuous permafrost,
18 and does that enter a problem, or could all construction
19 activities be rescheduled in the summer, as far south say--
20 as far north as say, Quill Creek?

21 MR. BOUCKHOUT: I'm aware of
22 the situation. I believe this is in respect to the Osborne
23 caribou herd in that particular area, is it?

24 DR. THEBERGE: Well, the
25 taxonomy is difficult but the non-caribou there, yes.

26 MR. BOUCKHOUT: We won't

1 get into that.

2 In that respect, Dr. Theberge,
3 it would really be a matter of evaluating in terms of where
4 the pipeline right-of-way would be, Whether that in fact is
5 in such a location and such a proximity to the caribou
6 range that activity in the area, in the assessment of pro-
7 fessional biologists such as yourself, would in fact create
8 an unacceptable impact on that herd.

9 It's my understanding, and
10 please correct me if I'm wrong, that the real concentration
11 area for that particular group of caribou is some miles
12 westward, I believe it would be, of the pipeline right-of-
13 way where it's currently sited.

14 I realize that the caribou
15 have been sighted, and do, on occasion, move through the
16 region where we contemplate putting a pipeline right-of-way,
17 in fact, right to the Alaska Highway and I believe I've
18 read, in fact, they do on occasion, cross the Alaska
19 Highway.

20 So it's really a matter of
21 balance. Are we, in fact, in the critical habitat?

22 DR. THEBERGE: If we have
23 two more years to study those caribou and put radio collars
24 on like we suggest, we can answer that question.

25 MR. BOUCKHOUT: I walked
26 right into it.

1 DR. THEBERGE: There is an
2 area between Burwash and Quill Creek, where the alignment
3 is over half a mile back from the road, and that's part of
4 our concern.

5 MR. BOUCKHOUT:
6 I might add that it is quite
7 possible to do some localized scheduling. For instance,
8 if we were to do the clearing in the winter, we could --
9 either ourselves or Wildlife Branch personnel -- monitor
10 the local movements of that caribou herd during that parti-
11 cular winter, and determine whether, in fact, we could pro-
12 ceed with clearing within the stretch you're speaking of in
13 the time frame we have in mind, or whether we should delay
14 it for a month, or advance it for a month, so there is
15 some facility for localized reaction to the condition.

16 DR. THEBERGE: Well, that's
17 possible, but even if the caribou were wintering up on the
18 tundra, the Burwash uplands, which is their main summer
19 range, we're only talking of 10 miles, and if the caribou
20 wanted to walk 10 miles, they could.

21 We just don't know enough
22 about winter movements of caribou to know whether they
23 would drift slowly, and if they did, that would make your
24 suggestion feasible, or they just would take off.

25 MR. BOUCKHOUT: I guess
26 in that respect, as a biologist familiar with caribou,
which you are, we would seek your advice in terms of the

1 severity or importance of the area, encompassed by the
2 proposed pipeline right-of-way in terms of survival of that
3 caribou population, particularly over winter.

4 DR. THEBERGE: I guess the
5 concern again that we would raise, and I have been involved
6 with this caribou herd fairly intensively, and supervised
7 a graduate student who wrote a Master of Science Degree
8 on the herd, is we just don't have good information on
9 winter behaviour and movements at the present time.

10 MR. KLASSEN: Regarding some
11 of the other species, Dr. Hough will be here this after-
12 noon, and will be commenting specifically on sheep in the
13 Sheep Mountain area, and the Ibex area, when we get to
14 those specific problem areas, and the subject of timing
15 of construction will probably be raised again there.

16 Going to aerial surveillance,
17 if I may, or do you want to --

18 MR. CHAIRMAN: I think
19 probably we should break for lunch, since we want to get
20 back at 1:30, I've advertised that.

21
22 (PROCEEDINGS ADJOURNED)
23
24
25
26

1
2 (PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)
3

4 MR. CHAIRMAN: Yes, could we
5 continue. For people who weren't here this morning, we
6 have some business left over on the wildlife disturbance
7 section, and we will wrap it up and then go into the area,
8 sensitive area discussion. And at that time, I will explain
9 the procedure which I would like to follow for that part
10 of it.

11 Mr. Klassen, you had one
12 other section?

13 MR. KLASSEN: Perhaps you
14 could refresh my memory. Were we finished with the sensi-
15 tivity to timing of construction, had all the questions
16 been asked on that that were --

17 MR. CHAIRMAN: Yes, I believe
18 so. We will come back in general to the panel members and
19 panel staff.

20 MR. KLASSEN: Okay, then.
21 Regarding the topic of
22 aerial surveillance, first of all, I'll just refer you to
23 a reference concerning sheep and their susceptibility to
24 disturbance by aircraft, and that reference is in our brief
25 on pages 23 and 24, and page 39.

26 Basically what they say is

1 that sheep are disturbed more by helicopters than by fixed
2 wing aircraft, and that the greatest disturbance comes
3 from low level circling flights.

4 Mr. Archibald, our furbearer
5 biologist, advises me that he feels there is little concern
6 over disturbance of furbearing mammals by aircraft, and
7 then further, I would like to refer you to the Yukon Wild-
8 life Branch remote camp policy, copies of which I have
9 made available to the panel, and to Mr. Bouckhout.

10 This is a policy, as the note
11 at the top of the page sets out, that we hope to see set
12 in law prior to the commencement of the 1978 field season,
13 those sections which are not as yet law, and on the second
14 page of that policy statement, there's a reference to air-
15 craft, and I'll read that into the record.

16 The recommendation is that
17 aircraft fly straight lines between points, and never go
18 back for another look at wildlife.

19 The second recommendation
20 is that aircraft maintain 1,000 foot altitudes over most
21 wildlife, and 2,000 foot above ground levels over especially
22 sensitive wildlife, such as sheep and falcons and hawks on
23 their nests.

24 The statement that Mr. Bouck-
25 hout made, I believe it was yesterday afternoon or evening,
26 was that for aerial surveillance flights over the pipeline

1 right-of-way, they would be conducted at 500 feet above
2 ground level, and what I would like to know is why that
3 -- is why it's necessary to fly that low.

MR. BOUCKHOUT:

4 This is primarily done to
5 enable the observer to have a good view of the right-of-
6 way in a fairly detailed manner, so that he can detect
7 fairly small scale occurrences. The pipeline right-of-way
8 surveillance is partially done to, as a mechanism to
9 detect leaks in the pipeline system, should such occur.

10 The leak is detected in the
11 summertime as a small, dead spot in the vegetation, since
12 the gas coming out of the line would kill vegetation imme-
13 diately above it. So the rationale is essentially to fly
14 low and slow, so that you can have a good detailed look
15 at the pipeline right-of-way for various considerations.

16 MR. KLASSEN: And what type
17 of aircraft would be used for those flights?

18 MR. BOUCKHOUT: Fixed wing
19 aircraft.

20 MR. KLASSEN: And how fre-
21 quently -- I believe you gave a figure yesterday, I don't
22 recall it, how frequently would those flights take place?

23 MR. BOUCKHOUT: Once the
24 pipeline system is in operation, and the company has
25 assured itself that the right-of-way has stabilized itself,
26 the initial periods post construction which may take one

1 yearly cycle. In the long term, surveillance flights would
2 be on the average/^{of}about once a month. In the shorter term,
3 immediately post construction, where we're looking for
4 immediate difficulties so that we can go in and rectify them
5 before they become aggravated, we could, in that respect,
6 be looking at more frequent surveillance flights, and this
7 could be in the order of once or twice a week.

8 MR. KLASSEN: Thank you.

9 Dr. Manfred Holtz, the Assist-
10 ant Director of the Wildlife Branch is here, as is Dr. John
11 Theberge, for the purpose of commenting, if they wish, and
12 of answering questions that anyone at the present may have
13 concerning the sensitivity of wildlife to aerial surveil-
14 lance.

15 MR. CHAIRMAN: Thank you very
16 much.

17 I believe Mr. Wykes has a
18 question.

19 MR. WYKES: I would just like
20 to follow up the discussion on the sensitivity of wildlife
21 to aircraft surveillance, and ask Mr. Bouckhout if there are
22 alternative techniques for surveillance that could possibly
23 be used in some of those perhaps sensitive areas, as an
24 example, Sheep Mountain, and I'm thinking about techniques
25 such as higher aircraft levels, using, say, thermal infrared
26 photography or something, to achieve the same purpose?

1 MR. BOUCKHOUT: With respect
2 to your last possibility, Mr. Wykes, what you're interested
3 in doing in surveillance is gaining immediate information so
4 that you can react immediately, if necessary. Therefore,
5 the visual mode is the most appropriate.

6 In terms of other techniques
7 that could be applied in particularly sensitive areas, at
8 particularly sensitive times, if they were not to extend
9 over very long sections of the right-of-way, one could do a
10 ground survey, simply by walking the line, as opposed to
11 utilizing aircraft.

12 MR. WYKES: Thank you.

13 MR. CHAIRMAN: Thank you.

14 I think the best way to con-
15 tinue would be to ask Mr. Hernandez to comment on the three
16 areas, and then we'll have questions from panel staff and
17 the floor, and then if you wish to say anything in sum-up,
18 that would be permitted.

19 MR. HERNANDEZ: I don't
20 specifically have any questions for Foothills, I'll just
21 make some brief comments, to highlight our approach to the
22 study we carried out in the initial environmental evaluat-
23 ion, the results and the recommendations, the general
24 results and recommendations we came up with.

25 These are discussed in detail
26 in the report, and you can -- I have referred to them

1 before, and you can refer to them to get the details your-
2 selves, there.

3 Our approach was to prepare
4 initial environmental evaluations, to get an insight into
5 the nature and magnitude of potential conflicts between the
6 proposed project and the environment. Since it's impractical
7 to look at all of the 50 plus mammal species, 180 plus
8 bird species, the 30 plus fish species, and the several
9 hundred plant species that occur throughout the route, we
10 had to come up with criteria for selecting species, to
11 assess in detail, and this is the approach we took.

12 Generally, the criteria were
13 briefly discussed by Mr. Hayden yesterday, with respect to
14 fish, and I'll just review them again. The species were
15 chosen on the basis of population status, ranging from
16 endangered to abundant, in general. This is again -- let
17 me state that this is for largely fish, birds and mammals,
18 for vegetation, there was a different approach taken.

19 Species were chosen on the
20 basis of population status, ranging from endangered to
21 abundant; and distribution, highly localized to widespread;
22 sensitivity to disturbance, highly sensitive to tolerant;
23 adaptability, ranging from not adaptable to highly adapt-
24 able; and use by man, such as the sports subsistence use
25 or aesthetic viewing use.

26 Using these criteria, key

1 species were selected and these species were six fish
2 species, as described by Mr. Hayden yesterday; eleven
3 bird species, or species groups, because that included,
4 the birds included the dabbling and diving ducks, and eight
5 species of mammals, including one group which is aquatic
6 furbearers.

7 Mr. Hayden presented his dis-
8 cussion on fish yesterday, and I'll just briefly comment on
9 what the findings were for the birds and the mammals areas.

10 In general, the presence of
11 aircraft and compressor station noise during operation
12 should have little effect on regional populations of
13 selected birds. The conflicts anticipated for these two
14 events will have very infrequent, such as aircraft or
15 localized, i.e. compressor station impacts.

16 Most aspects of possible
17 impact can be controlled so that adverse effects are
18 eliminated, or largely mitigated. Generally, these are
19 the types of restrictions we've been talking about in
20 terms of timing and construction activities at non-sensitive
21 periods or keeping buffer zones between the project activity
22 and critical habitat for the species.

23 Once these types of recommend-
24 ations, or once these types of conflicts and concerns have
25 been identified, there is a need for more detailed evaluat-
26 ions to determine site specific conflicts of the type

1 discussed this morning for the caribou and birds in other
2 areas, where there are special measures needed. Again, I
3 would like to emphasize, as I mentioned yesterday, the
4 crucial need to develop these detailed site specific miti-
5 gative measures of the types that are summarized in the
6 Environmental Protection Services recommended standards for
7 Mackenzie Valley Gas Pipe Line, where windows for construct-
8 ion or non-disturbance are identified, where prohibited
9 periods of activities are identified, and types of operations
10 that can or cannot be carried out.

11 Once again, I would like to
12 stress that there is a need for control agencies to be in
13 place and adequately staffed to carry out its duties of
14 monitoring the project, including pre-construction and
15 construction activities.

16 Those are the main points.

17 MR. CHAIRMAN: Thank you very
18 much. Do you have any comments, Mr. Bouckhout?

19 MR. BOUCKHOUT: No, sir.

20 MR. CHAIRMAN: Any questions
21 from the panel staff, to any one of the advisors on any of
22 the subjects?

23 Mrs. Archibald?

24 MRS. ARCHIBALD: I have a
25 question for Mr. Roberson. Did you say that fencing was
26 used to keep bears out of camps and garbage dumps during

1 construction of the Alyeska pipeline?

2 MR. ROBERSON: Camps and
3 garbage dumps, no, I don't believe that's what I said. I
4 said camps' garbage dumps in that they were incinerated
5 waste and buried at regular intervals were not fenced.

6 MRS. ARCHIBALD: Did you use
7 fencing around camps, or did you use fencing at all to keep
8 bears out of anywhere?

9 MR. ROBERSON: The camps,
10 the majority of the camps anyway, were fenced, as well as
11 the pump stations, temporary or relatively permanent camps.
12 Yes, the fencing was used in camps, but to my knowledge,
13 the -- in that incinerated waste is not unattractive
14 particularly to the bears that were the greatest difficulty
15 in being attracted to campsites, the incinerated waste was
16 hauled to a site away from the camps, and was not fenced.
17 It was buried by regular landfill type methods.

18 MRS. ARCHIBALD: So you
19 didn't have any bears actually going through fences anywhere,
20 you didn't have that problem?

21 MR. ROBERSON: You say bears
22 going through fences? Over, and I speak specifically of
23 the Valdez terminal, in which snow depths exceed 15 feet on
24 the ground. In other words, they came over the top and
25 the terminal happens to be on a sloped terrain, in which
26 any small slide would fill up against the fence and provide

1 access over it. They came in through gates, and a number
2 of locations, and I think the question that was asked
3 earlier about methods of deterring them, one thought came
4 to mind after that discussion ended, so-called cracker
5 shells, shotgun cracker shell type approaches, in that the
6 bears first arriving, where that approach used would be
7 and is somewhat effective. Once acclimatized to the camp,
8 it is not generally.

9 MRS. ARCHIBALD: So the
10 fences generally were not that effective at keeping the
11 bears out? They could get in if they wanted to.

12 What I'm driving at is that
13 this has been a problem for everyone. It's almost impossible
14 to keep bears out of an area with a fence, even if it's
15 electrified, is that not true?

16 MR. ROBERSON: In general,
17 they have not been totally effective, yes, I would have to
18 agree to that.

19 The amount of bear occurrence,
20 I think, would be somewhat a key as to whether the degree
21 of keeping out, if you keep one out of ten -- I'm sorry,
22 nine out of ten out, you may have contributed to the sur-
23 vival of those nine, so I think you would have to consider
24 it in relative merits.

25 If there are a significant
26 number of bears, and you wish to protect them, the measures

1 basically are effective. The degree of approach, if you
2 have gate guards, for instance, the camps at Alyeska had
3 had security people at each camp, they could readily keep
4 the bears out of totally fenced camps, if they chose to.
5 So again, the level of approach, the level of concern,
6 rather than the ability. McKinley type fence, a Cyclone
7 fence, I don't know what term you people use. A heavy,
8 woven wire fence of sufficient height is essentially a
9 deterrent, given that all the other considerations are taken
10 care of.

11 I don't know if I've answered
12 all your questions, but I'll go with any more you have.

13 MRS. ARCHIBALD: All right.
14 There's just one further point. Mr. Bouckhout, are you
15 going to bury this fence? Is it going to be run underground
16 as well?

17 MR. BOUCKHOUT: As I indicated
18 earlier this morning, due to an oversight on my part, I
19 had not in detail, considered fencing of camps. It
20 certainly will be considered in deference to the discussion
21 we've had this morning.

22 I couldn't say precisely
23 what kind of design we might use. Again, that would be
24 dependent upon the purpose for its use. Certainly burying
25 the fence is a distinct possibility in the case where one
26 is attempting to keep bears out.

1 I think an additional point
2 is perhaps relevant here is that the camps in Alyeska, and
3 this was mentioned this morning as well, were established
4 and operated at particular locations for periods of well
5 over a year, two years and some even longer than that.

6 We will have no permanent
7 camps which will be established in any particular site for
8 longer than approximately six to eight months. I think
9 that is a factor in the equation which also should be taken
10 into account.

11 MRS. ARCHIBALD: Okay, thank
12 you very much.

13 MR. CHAIRMAN: Any other
14 questions? Any questions from the floor? Any questions
15 from the panel?

16 Mr. Chambers?

17 MR. CHAMBERS: There still
18 seems to be some variance in opinion, which I would like
19 to try and clear up on the surveillance, and the acceptable
20 heighth of aircraft in surveillance.

21 Mr. Bouckhout says low and
22 slow as possible, and I take it / from the policy that we have
23 in front of us from Mr. Klassen, that he's talking a
24 thousand to two thousand feet. Is there some susceptible
25 compromise between 500 feet and 2,000 feet that we're
26 looking at, that will not cause undue disturbance?

1 MR. KLASSEN: When I gave
2 those levels, I was acting on the advice of members of the
3 Wildlife Branch. I personally am not familiar with the
4 studies that were conducted that resulted in those levels
5 being suggested.

6 I don't think that given the
7 responsibility that we have to protect wildlife, that we
8 would be prepared to lower those, at least not without
9 further study, but I was wondering, after Mr. Wykes' asked
10 his question, whether it would not be possible to detect
11 perhaps, through a reduction in pressures in a given length
12 of pipe, through technological means, a leak?

13 How large would a leak have
14 to be before there would be a significant reduction in
15 pressure that would be picked up by instruments monitoring
16 pressure levels?

17 MR. BOUCKHOUT: I will attempt
18 to answer your question, however, you appreciate that I'll
19 be on thin ice.

20 It's my understanding that
21 what develops in terms of a leak initially is a very, very
22 small pinhole type leak, which would create firstly, no
23 detectable change in pressure.

24 With respect to pipeline
25 integrity, pipeline and public safety and other consider-
26 ations, it's in our best interests, obviously, if anything

1 such as this were to occur, to be able to detect it imme-
2 diately and take necessary remedial action before such an
3 event became aggravated.

4 In that respect, which ties
5 into the general theme of the conversation, I would think
6 that from the pipeline company's perspective, and probably
7 carrying it to broader issues, from pipeline safety,
8 personnel safety, right-of-way integrity and general
9 environmental considerations, given that pipeline surveil-
10 lance flights are infrequent, and I've already mentioned
11 the kinds of frequencies we're dealing with, that I rather
12 doubt, except possibly in very isolated situations, that
13 the aircraft traffic contributed to by our pipeline sur-
14 veillance, would have any detectable effect on wildlife
15 harassment in the area of the pipeline right-of-way.

16 I don't know what the current
17 small fixed wing aircraft and helicopter traffic is along
18 the right-of-way, but I'm sure it's quite considerable,
19 and I'm sure I would be safe in saying, particularly during
20 the summer months, that it's in the order of tens of flights
21 per day, primarily the "I fly rivers, I fly roads" type
22 flights.

23 MR. KLASSEN: I'll grant you
24 that, but those flights are usually above the level that we
25 are indicating as a minimum.

26 If I could ask one more

1 question relating to your flights, how confident are you
2 that flights once a month at 500 feet, how confident are you
3 that those flights will be able to detect leaks? In the
4 summer, you say it would be by -- it would be indicated by
5 the death of vegetation immediately around the leak; how
6 would you, and I'm running a lot of questions together here,
7 I realize that, but how would you detect it in the winter-
8 time?

9 MR. BOUCKHOUT: In the winter-
10 time, any leak which does occur, and again I should stress
11 that these are extremely rare, and we have provided some
12 statistical data regarding this, the escaping gas causes a
13 very slight colouration of the snow, so that with respect
14 to the detection of such leaks in the wintertime, it can be
15 detected by the colouration of snow.

16 In terms of our assurance
17 that this is sufficient, I can only say that it's a standard
18 operating procedure which is used on all southern pipelines,
19 through both forested and non-forested areas, and as such,
20 would be adopted here.

21 MR. KLASSEN: The once a
22 month flight? There wouldn't be --

23 MR. CHAIRMAN: Sorry, go
24 ahead.

25 MR. KLASSEN: Would there be
26 the possibility that in the future, it might be necessary

1 to increase those flights?

2 MR. BOUCKHOUT: There is
3 always the possibility, particularly if something were to
4 be detected in the flights, particularly relative to such
5 things as potential drainage problems or slope stability
6 problems, which when initially detected, were not at the
7 point where they appeared to have the potential to become
8 aggravated, but one wished to keep a close look on them to
9 be in a position to be able to respond in case they did,
10 then it's possible that the flights would become more
11 frequent.

12 But again, I don't think that
13 the kinds of flights we're talking about during the oper-
14 ational mode would be significant to any extent, in com-
15 parison to the current aircraft traffic in the corridor.

16 MR. KLASSEN: One further
17 question. If our future studies and yours indicate that
18 along whatever route is finally approved, if one is approved,
19 if those studies indicate that there are areas that are
20 particularly sensitive, would Foothills be prepared to
21 initiate ground surveillance in the form of a man on foot,
22 horseback, or whatever means?

23 MR. BOUCKHOUT: Yes, sir.

24 MR. KLASSEN: Thank you

25 MR. CHAIRMAN: I'll ask
26 the people to sum up first. Do you have anything to say

1 in sum, Mr. Romaine?

2 MR. ROMAINE: Mr. Chairman,
3 two points; one, Mr. Retfalvi would like to summarize on
4 wildlife disturbance.

5 The second is perhaps a bit
6 out of line of the specific areas that have been covered,
7 but I leave it for your discretion, on the question of
8 resource exploitation, or resource disturbance, Dr. Stanek
9 would like to make a brief statement on that.

10 MR. CHAIRMAN: Please continue.

11 MR. RETFALVI: Mr. Chairman,
12 I will be very briefly, and I only would like to reiterate
13 some of the points that I have made earlier.

14 In summary, regarding the
15 migratory bird resource, we wish to advise the panel by
16 pointing out that number one, all migratory birds are a
17 concern, and therefore should receive consideration in the
18 impact statement; two, a general lack of site specific
19 baseline data at this time does not allow, in our opinion,
20 for a meaningful evaluation of impact, and for the putting
21 forth of mitigating measures, and in the light of this,
22 and until substantial quantitative information would suggest
23 otherwise; number three, all water bodies, wetlands are
24 to be considered of equal importance.

25 Thank you.

26 MR. CHAIRMAN: Thank you.

1 Mr. Stanek? Dr. Stanek.

2 DR. STANEK: Thank you, Mr.
3 Chairman.

4 I am addressing myself to
5 vegetation as a resource. Vegetation is an integral part
6 of our environment. In terms of the panel's reference,
7 the role of vegetation has been discussed particularly with
8 regard to revegetation.

9 However, I could not fail to
10 notice that in general terms, vegetation has been taken for
11 granted, and in case of the pipeline development, will
12 become the innocent bystander victim.

13 We know that approximately
14 10 square miles, and this figure perhaps could be much
15 higher, will be taken up by the right-of-way with the
16 associated destruction and alteration of vegetation cover.
17 This includes plants of the tundra, peatlands, forest and
18 other environments.

19 Vegetation is a resource.
20 It serves as wildlife habitat, and provides its sustenance.
21 It includes forests which serve man. Though presently
22 considered of limited commercial importance, they require
23 a hundred and more years to grow to merchantable size.

24 It is an integral part of our
25 environment, and affects us in many respects. For instance,
26 aesthetic values, watershed protection, climatic effects,

1 erosion control, and so on. It includes rare plant
2 communities. It includes peatland communities, which are
3 a part of an eco-system associated with peat, which in
4 itself constitutes a raw material resource.

5 Our knowledge of these north-
6 ern vegetation communities primarily is of a general nature.
7 We must acquire more specific knowledge to effectively pro-
8 tect and preserve the vegetation from, and find beneficial
9 solutions to developments.

10 I introduce this in support
11 of my request to the panel, firstly to recognize in their
12 final report, the lack of knowledge of vegetation along the
13 pipeline route.

14 Secondly, to make recommend-
15 ations for locating the pipeline on or as close as possible
16 to existing corridors, so as to minimize damage and destruct-
17 ion of existing vegetation.

18 Thank you very much.

19 MR. CHAIRMAN: Thank you.

20 Do you have anything to say
21 in summation, Mr. Klassen?

22 MR. KLASSEN: With regard to
23 these three topics, I would only reiterate that so far as
24 the Wildlife Branch is concerned about trapping areas, we
25 would like to see considerably more study carried out on
26 furbearing mammals, and perhaps we are not in a position

1 to suggest this, but I'll make the suggestion anyway, that
2 Foothills, if they have not already done so, consider settin
3 up, or assigning some person to contacting these trappers
4 who will be affected by the pipeline alignment, and perhaps
5 in initiating compensation negotiations.

6 The subject of sensitivity
7 to timing of construction affects all of the species along
8 the route, and while we can make general recommendations
9 at this time, specific recommendations will have to await
10 further study, and with regard to aerial surveillance, we'll
11 stick with 1,000 foot general above-ground level flights,
12 and 2,000 feet over areas that will be identified as
13 sensitive.

14 MR. CHAIRMAN: Thank you.

15 Mr. Hernandez? Does any of
16 the panel have questions?

17 Mr. Wykes?

18 MR. WYKES: Mr. Bouckhout,
19 I'm referring to a part of your evidence that was, filed, called
20 "Feasibility Study for Using Remote Sensing for Environ-
21 mental Surveillance of Arctic Pipelines".

22 My question is whether or not
23 you are planning to implement a remote sensing program, and
24 if so, is it in addition to the normal surveillance program
25 you were just describing which is low level, or what is the
26 difference?

1
2 MR. BOUCKHOUT: We are
3 investigating the possibilities of using remote sensing
4 primarily as a monitoring tool, rather than a surveillance
5 tool. The utilization of this methodology is such that
6 your time requirements for data acquisition, data analysis,
7 are quite long, and therefore it takes sometime, a period
8 of weeks or months, to analyze the data, and make comparisons
9 with baseline information.

10 We had the report prepared
11 sometime ago, and they're still considering on this system,
12 the application of such a tool to, as I mentioned, a long
13 term monitoring function, particularly for such parameters
14 as artificial or natural revegetation success, any changes
15 in drainage patterns. So in other words, particularly as
16 a monitoring tool for the physical environment, and includ-
17 ing the vegetation complex, not so much for one which has
18 biological or necessarily pipeline integrity applications,
19 although this is also a possibility.

20 MR. WYKES: Thank you.

21 MR. CHAIRMAN: Okay, then we
22 will move to our next section. Before I do so, I would
23 like to say a few words about it.

24 It's a section that the
25 specific topics seem to all run together. Quite often, the
26 particular areas of sensitivity have also unique species,
or some other characteristic that's also identified in the

1 other subject areas, and what I'm going to suggest is that
2 we have panel staff read in the document to get us going,
3 and then I will ask, as is becoming customary at this
4 hearing, who's going to catch the flights, so that we can
5 schedule those topics for discussion early on.

6 What I'm suggesting is that
7 we take the areas that have been identified as significant
8 areas one by one, and then all those unique species that
9 haven't been discussed within the context of those areas,
10 we can come back to at the end, if that's satisfactory.

11 Before I do that, I haven't
12 asked Mr. Bouckhout if he had any comments in summation.
13 I guess I'm trying to move things along too quickly.

14 MR. BOUCKHOUT: No, I didn't,
15 Dr. Hill.

16 MR. CHAIRMAN: Okay. So let
17 me explain the procedures for those people that are coming
18 in for the unique areas, and unique species discussion.

19 What we do is we ask a member
20 of the panel staff to read in a prepared document, to get
21 the discussion underway. I ask Foothills (Yukon) Limited
22 to respond, to say how they are approaching these issues,
23 and then I ask our advisors, the Intervenor -- we tend to
24 call them advisors, the non-legal word, on my left to ask
25 questions of Foothills (Yukon) Limited, insofar as it's
26 required to clarify any points, and then ask them to give

1 us their advice on a topic by topic issue.

2 What I think the best way to
3 start here, instead of asking Foothills to respond totally
4 to all of the areas, we'll ask Mr. Bouckhout to respond on
5 a topic by topic basis.

6 Now, everyone who wishes to
7 enter into this discussion, would you please take a seat
8 along my left. There are name tags available, and the
9 reason for this is that for the record, it's very useful for
10 us to have your name in front of you, so that we can record
11 who is speaking.

12 Is there anyone here from
13 Parks, on the -- oh yes, Mr. Massey, would you like to take
14 a chair? Would you like to read in the statement?

15 MRS. ARCHIBALD: Four major
16 areas of environmental concern relating to route selection,
17 construction and operation of the proposed gas pipeline,
18 were identified at the first formal hearings in Whitehorse,
19 and at informal meetings in several Yukon communities.

20 These are: Unique areas and
21 species; wilderness violation and aesthetics; recreation
22 areas and specific problem areas. As there is a consider-
23 able amount of overlap in these subjects, I will introduce
24 all four at the same time.

25 The proposed pipeline align-
26 ment falls within the boundaries of Kluane National Park,

1 the Klusne Game Sanctuary, and four proposed international
2 biological program sites. The latter were selected as
3 ecological reserves on the basis of their uniqueness.

4 Of these four reserves, parti-
5 cular concerns have been expressed over the potential impact
6 on the Sheep Mountain-Mount Wallace area, and the Duke
7 Meadows area just west of Burwash.

8 Sheep Mountain is believed to
9 constitute critical winter range for a flock of some 200
10 Dahl sheep, and Duke Meadows is a unique grassland, rich
11 in wildlife.

12 The major wildlife species
13 identified as being particularly vulnerable to disturbance
14 by the proposed development are Dahl sheep, grizzly bears,
15 woodland caribou, peregrine falcons, ospreys, swans and bald
16 eagles.

17 Disruptive influences would
18 include habitat alteration, increased negative human/animal
19 interaction, noise, fuel and toxic chemical spills, and
20 forest fires. Some of these issues have been dealt with
21 to a certain extent, during the past two days.

22 A desire to maintain the
23 aesthetic integrity of the landscape has been expressed by
24 many Yukoners. This would entail careful design and rout-
25 ing of the pipeline to avoid unnecessary divergences from
26 the highway into wilderness areas, and conscientious

1 rehabilitation of ancillary developments, such as borrow
2 sites, construction camp sites, access roads and river
3 crossings, as well as the pipeline right-of-way.

4 The concern over wilderness
5 violations, as well as the wish to ensure minimal disruption
6 of campgrounds and recreational areas, is as important to
7 the tourist industry in the Yukon, as it is to the locals.

8 Foothills Pipe Line Limited
9 has realigned their proposed pipeline in the Pickhandle
10 Lake area for environmental reasons. Four other specific
11 problem areas, which may warrant serious consideration for
12 realignment are Ibex Pass, Sheep Mountain, Duke Meadows
13 and Squanga Lake.

14 MR. CHAIRMAN: Thank you.

15 I would like to determine the
16 order of these special problem areas, order for discussion
17 of these special problem areas on the basis of availability
18 of personnel.

19 I know some people are leaving
20 this evening. Are there -- is there anyone wishing to catch
21 the afternoon flight, who would wish to partake in discuss-
22 ion of any one of the particular areas?

23 MR. BOUCKHOUT: Dr. Hill, Mr.
24 McLaughlin, who is with us, will be leaving on the flight
25 at 3:50 this afternoon. His particular input would be rele-
26 vant to the specific problem areas, Ibex, Mount Mitchi-

1 Squanga, et cetera, and possibly as well, in the unique
2 species area in terms of mammals.

3 MR. CHAIRMAN: Okay, 3:50.
4 Which one of those special areas do you think he could
5 contribute most to?

6 MR. BOUCKHOUT: I suspect to
7 the last one, 2.6, Specific Problem Areas.

8 MR. CHAIRMAN: Yes, the
9 Squanga Lake or Ibex Pass?

10 MR. BOUCKHOUT: I would think
11 Squanga Lake.

12 MR. CHAIRMAN: Well then, if
13 it's agreed, we'll start with the Squanga Lake-Mount
14 Mitchi issue, and would you like to respond to the allegat-
15 ion that it's a special area of special significance that
16 requires further study?

17 MR. BOUCKHOUT: To begin the
18 response, we do recognize that the Squanga Lake divergence
19 does warrant special consideration. The divergence lies
20 within an area characterized as a woodland caribou winter-
21 ing area. It's also in the vicinity of Squanga Lake itself,
22 which is additionally characterized as harbouring nesting
23 raptors.

24 In our original proposal, which
25 was the 42 inch proposal, the route was the same, however,
26 in the Squanga Lake area, we additionally had located a

1 compressor station, and a permanent access road.

2 Since that time, with a change
3 in the proposal, there is no longer a compressor station,
4 nor a permanent access road in the Squanga Lake area.
5 The pipeline routing, however, remains the same.

6 We have proposed summer con-
7 struction throughout this divergence, we propose no permanent
8 roads to be established along the right-of-way. It is our
9 feeling, and I'm speaking for Foothills, that although we
10 recognize the possible requirement for local alignment
11 considerations, and realignment in the immediate vicinity
12 of Squanga Lake itself, that given that the primary concern
13 in this area is with regards to wintering caribou, that
14 also given summer construction, that environmental concerns,
15 as we know them, can be adequately mitigated in the vicinity
16 of the current alignment.

17 More information is being
18 collected on the area. This includes survey work for
19 mammals, as well as survey work being conducted for raptors
20 and water fowl. The results of these studies will
21 obviously make more information available, and then this
22 information will be taken into account in our assessment
23 of the routing into the Squanga Lake area, and appropriate
24 measures taken to mitigate impact, if such potential is
25 uncovered as a result of the future studies, and the
26 current studies which are now ongoing.

1 MR. CHAIRMAN: Thank you,
2 Mr. Bouckhout.

3 I think the best -- are there
4 any questions by the panel before we start on the Squanga
5 Lake issue? Dr. Hughes?

6 DR. HUGHES: Mr. Bouckhout,
7 can you supply us with a figure on the difference in length
8 of line, using the Squanga Lake diversion, or following the
9 highway?

10 MR. BOUCKHOUT: Dr. Hughes,
11 I cannot provide you with a specific figure, however, in
12 viewing the map, I would estimate that it would be in the
13 order of, I suspect, 5 to 10 miles.

14 DR. HUGHES: Five to ten?

15 MR. BOUCKHOUT: I would think
16 so, just in viewing the map, if the relocation were to
17 consider changing the alignment to follow the highway.

18 DR. HUGHES: I had hoped to
19 get figures just a bit closer than that --

20 MR. BOUCKHOUT: Well, I am
21 sure it can, in fairly short order, be scaled off.

22 DR. HUGHES: I wonder if that
23 could be done, just so that we have some feel for -- we
24 haven't talked about economic trade-offs here, and it's
25 probably wise not to do so, but I'm interested in just
26 how much additional line there is from the point of view of

Dr. Hughes
Mr. Bouckhout
Dr. Lacate

e 1439

1 just how much additional terrain disturbance is involved in
2 going along the route.

3 MR. BOUCKHOUT: Does anyone
4 in the room have a ruler, or a piece of string?

5 MR. CHAIRMAN: I think that--
6 I guess Dr. Hughes hasn't got it, but one of our staff, I
7 think, has calculated 13.8 miles.

8 MR. BOUCKHOUT: Yes, I would
9 venture to say that's quite a possibility.

10 MR. CHAIRMAN: Possibly you
11 could confirm that at a later date.

12 MR. BOUCKHOUT: Yes, we will.

13 MR. CHAIRMAN: Dr. Lacate?

14 DR. LACATE: Mr. Bouckhout,
15 how much would this 13.8 miles involve in terms of costs?
16 I mean, do you have sort of a million dollars per mile
17 figure?

18 MR. BOUCKHOUT: I would think,
19 Dr. Lacate, million dollars per mile might be within the
20 realm of possibility in this area. Of course, that would
21 not take into account, in terms of getting toward a more
22 precise figure, the difficulty of construction compared,
23 comparing the current alignment with the alignment, potent-
24 ial alignment closer to the highway.

25 It's my understanding that if
26 one were to follow an alignment closer to the highway,

1 there would be considerably more difficult terrain to
2 traverse, and this is particularly with respect to local
3 topography, and this would have some impact on the cost of
4 construction.

5 MR. CHAIRMAN: Mr. Romaine,
6 do you have something?

7 MR. ROMAINE: To help you,
8 perhaps as you go around, first of all, I would like to
9 indicate who we have here from the Department, I believe
10 there's some other people mixed between us now, so it's to
11 eliminate confusion.

12 Ed
13 Dr./Oswald, Mr. John McNally,
14 and Mr. Phil Meyer, are the principal people that will be
15 addressing this, and just one more point, I guess, before
16 we get into the specific area that you're talking about now,
17 we, at least from a Fisheries point of view, have identified
18 a number of other problem areas, obviously associated with
19 streams or rivers.

20 I wasn't quite sure how you
21 were handling those, and sort of what your definition of
22 a problem area was in terms of size?

23 MR. CHAIRMAN: Well, my
24 proposal is that we handle the problem areas first that
25 have been identified, the four areas, and then we continue
26 on with discussion of specific species or specific problems
that have not been yet discussed. But the proposal to go

1 with the four that have been discussed, is we will cover
2 off a lot of the unique species, I think, as we go through
3 these four particular areas.

4 But there will be a time
5 after we go through the four specific areas, when we can
6 catch up on anything we've missed, anything in the realm
7 of a unique or special consideration.

8 MR. ROMAINE: Okay, I would
9 think -- that's fine. I would think that in the discussion
10 here, perhaps again to facilitate and because of the range
11 of subjects, that perhaps we could run through our various
12 participants.

13 MR. CHAIRMAN: Fine, I'll
14 start with Mr. McNally then.

15 MR. MCNALLY: Thank you very
16 much. Before we start, I guess it would be in order to
17 introduce the various members of our support, who are
18 currently, the company Northern Natural Resources Services
19 are with us today, who have gathered data in support of
20 our presentation here today.

21 Mr. Lance Steigenberger is
22 immediately to my right, Mr. Mike Ellson is behind me, as
23 is Mr. Eric Johnson. They have contributed to the
24 data that we have on hand that we are presenting here, and
25 if there are questions specific that come up, I will be
26 asking for their input.

1 MR. CHAIRMAN: Fine, would
2 you like to start the discussion off then, on the Squanga
3 Lake area?

4 MR. MCNALLY: Yes, I would.
5 To get it rolling, what I
6 propose to do is we have identified an area of concern
7 with reference to Squanga Lake. I propose, in the discussion
8 of the problem areas, not to create an adversary situation,
9 but more as a suggestion and recommendation to the panel
10 of our position, and our concerns with reference to it,
11 to give you food for thought, if you wish, and some direct-
12 ion as to how we feel about it.

13 With reference to Squanga
14 Lake, I'll just quickly run through our concerns, and then
15 discuss it briefly, if I may. We have identified it as
16 being critical fish stocks. The basis that we have done
17 that is on the overwintering capacity is good, the spawn-
18 ing and rearing of two unique species of humpback white-
19 fish have been identified extensively in the system;
20 spawning by Arctic greyling in the creek has been identified.

21 The probability exists of
22 facilitated harvest of game fish; possible groundwater
23 sources have been identified nearby; it's a high product-
24 ivity area.

25 Explicitly, what I would
26 recommend, what I would like to see done is that the present

1 route, as it's designated, which goes across the Squanga
2 Lake area, I would recommend that it be realigned and to
3 tie up, essentially moving from Milepost -- pipeline Mile-
4 post 320, and then tying back into the highway, which
5 would be west of Squanga Lake itself, so it avoids any
6 interference with Squanga Lake.

7 From thence, parallelling the
8 highway, to join up roughly to where the existing highway
9 crossing is now shown on the alignment. This would avoid
10 interference with the Squanga Lake itself, and by following
11 adjacent to the highway alignment, would minimize the impact
12 on Squanga Creek, so merely as a suggestion and a mechanism
13 of reviewing an alternate approach to this alignment at
14 Squanga, I would suggest that the current realignment be
15 reassessed under those terms.

16 MR. CHAIRMAN: Okay, let me
17 just clarify that, we are drawing lines on maps here.

18 What you're proposing, as
19 far as we can tell, is that you would go south of Squanga
20 Lake some distance --

21 MR. MCNALLY: Yes, basically
22 parallel.

23 MR. CHAIRMAN: How far from
24 the lake would that be?

25 MR. MCNALLY: Okay, for our
26 initial alignment, we have just shown that it parallels the

1 lake itself, being a ways back from the lakeshore, to give
2 you some direction of it.

3 MR. CHAIRMAN: Fine.

4 Would you like to respond to
5 that, Mr. Bouckhout?

6 MR. BOUCKHOUT: Yes sir, I
7 expect so. Could I have a definition on that relocation
8 again? Did you say approximately Milepost --

9 MR. MCNALLY: 320.

10 MR. BOUCKHOUT: -- 320, at
11 Squanga Lake, and from 320 to go where?

12 MR. MCNALLY: Parallel to
13 Squanga Lake on the west of Squanga Lake, and then to tie
14 into the highway.

15 MR. CHAIRMAN: I think we
16 have different Mileposts here on our maps.

17 MR. MCNALLY: Okay, to give
18 you a feel for it, I have the position I'm suggesting is
19 in the order of approximately a mile west of Squanga Lake,
20 to make the diversion.

21 MR. BOUCKHOUT: So in other
22 words to maintain the existing alignment approaching Squanga
23 Lake, but to then turn southeasterly before the alignment
24 reaches Squanga Lake, and tie back into the highway would
25 be at the southern tip of Squanga Lake, is that correct?

26 MR. MCNALLY: That's right,

1 parallelling but staying away from the lake.

2 MR. BOUCKHOUT: Well, I
3 certainly can't comment in any detail. One would have to
4 look at the terrain conditions in that area, to see what
5 the implications might be.

6 MR. MCNALLY: That's fair,
7 Mr. Bouckhout. I didn't, as I said, I didn't intend to
8 throw it out as an adversary comment or a challenge, I just
9 wanted to point out that from our viewpoint, it would be
10 beneficial to make this realignment, and I would like to
11 see it considered.

12 MR. BOUCKHOUT: Very well.

13 MR. CHAIRMAN: Fine, and you
14 feel that this would, in fact, mitigate most of the per-
15 ceived fisheries problems that you can see with the present
16 alignment?

17 MR. MCNALLY: Explicit to
18 that site, yes.

19 MR. CHAIRMAN: Yes.

20 MR. BOUCKHOUT: I think in
21 considering alternatives, one should keep in mind that
22 the nature of the terrain, relative to engineering and
23 construction feasibility and suitability does also have a
24 considerable bearing on overall environmental impact
25 potential therefore.

26 In that respect, one would

1 prefer, unless mitigating circumstances warrant it, alter-
2 ation to remain in the most suitable construction terrain,
3 and thereby having the facility to limit any long term and
4 extensive interruption of the right-of-way area.

5 MR. MCNALLY: I'm sorry.

6 MR. CHAIRMAN: Fine. Does
7 that pretty well state your case?

8 MR. MCNALLY: Yes, that pretty
9 well states my case. His comment with reference to terrain
10 is fair; just to put it into perspective, I wasn't suggest-
11 ing that it go over the height of land. The terrain, as
12 indicated on the rough scale of the map, I have here indi-
13 cates that it would be possible to skirt the high ground
14 that's there, and have a practical alignment to tie into
15 it.

16 I of course don't mean to
17 indicate that it go over the highest ground possible,
18 that's obviously not the recommendation, but it is a suggest-
19 ion that it does appear with the terrain that's there,
20 that it would be potentially possible to realign it such
21 that it could avoid the actual difficult crossings.

22 MR. CHAIRMAN: Thank you,
23 and the difficult crossing is just at the west end of
24 Squanga Lake, is that the problem area?

25 MR. MCNALLY: Yes, it is
26 indeed. It also tidies up the alignment adjacent to Squanga

1 Lake, it also tidies up the crossing at the Squanga Creek
2 itself, and puts it adjacent to the highway where the
3 impact's already been felt.

4 MR. CHAIRMAN: I see.

5 Mr. Masek, would you like
6 to discuss Squanga Lake at all? No, okay.

7 MR. MEYER: Mr. Chairman,
8 we're sitting in apple pie order again, but if it would be
9 useful to you, as the person involved in the fishery use
10 section, I could follow Mr. McNally, if that was --

11 MR. CHAIRMAN: Fine, well
12 let's then talk about fish and aquatic aspects first, that's
13 fine.

14 Please continue.

15 MR. MEYER: Thank you. We
16 have very little to add to what John has said. There is,
17 as far as we understand, there is some level of resident
18 use and a campground that may have some fishing associated
19 with it.

20 At this time, we don't have
21 a firm feel on just what the pressure might be, and in terms
22 of use, that's about all we would be able to tell you at
23 this time.

24 We have one follow question,
25 I believe following a question that Dr. Lacate raised,
26 that may provide information useful to the committee when

1 it considers realignment and balances cost.

2 I wonder, Mr. Bouckhout, if
3 you could take the figure of 1 million dollars, and trace
4 it through in terms of the type of impact that might have
5 on the marketability of the gas to the consumer, by looking
6 at the volume you intend to put through the pipe, and you
7 know, what it would add to the price of gas?

8 MR. BOUCKHOUT: No sir, I
9 could not do that.

10 MR. MEYER: Thank you.
11 Thank you, Mr. Chairman.

12 MR. CHAIRMAN: Would anybody
13 else like to discuss the aquatic aspects of possible
14 effects on Squanga Lake?

15 Dr. Lindsey?

16 DR. LINDSEY: Well, Mr.
17 Chairman, I want to make the point, perhaps a little more
18 strongly, that there's a unique type of whitefish which
19 goes by the common name of the Squanga, which is probably
20 found nowhere in the world except in the Yukon Territory,
21 and within the Yukon is exceedingly restricted in its
22 distribution.

23 I would like to present evi-
24 dence, either now or when you tell me, that the Squanga
25 is, by any sort of criteria, a rare and endangered species.
26 It's rare, not in the sense that only a handful of

1 individuals are present, but that there are very few
2 populations of these things in the world, and it is
3 endangered in that the proposed pipeline route looks as
4 though it was designed with the express purpose of threat-
5 ening the existence of these fish.

6 I have some additional inform-
7 ation, which is not published, about the distribution of
8 these fish, and they in fact also occur in Little Teslin
9 Lake, which in my opinion, is even more threatened than
10 Squanga Lake.

11 So, Mr. Chairman, do you want
12 me to elaborate on that now or later?

13 MR. CHAIRMAN: Please do.

14 DR. LINDSEY: Well, I would
15 like to establish this claim that it is a rare species,
16 because I don't think biologists should throw these terms
17 around loosely, since when you say a thing is a rare and
18 endangered species nowadays, it promotes a good deal of
19 public concern.

20 But this is a very rare animal,
21 and it is something that we have only in the Yukon Terri-
22 tory. The well known lake whitefish, which is called
23 *Coregonus clupeaformis*, occurs right across Canada,
24 and it is one of the most important commercial freshwater
25 species.

26 The Squanga, I'll use that as

1 its common name because it doesn't yet have a scientific
2 name, is related to lake whitefish, but it is a distinct
3 species.

4 What I mean by that is that
5 this is not just a local variation, this is an animal so
6 different from the lake whitefish, that in Squanga Lake,
7 the Squanga and the lake whitefish occur together, without
8 interbreeding, so by all the criteria which biologists use,
9 this thing is a good species, i.e. it is quite independent
10 in its breeding, it breeds at a different time and place,
11 it feeds differently and different parts of the watershed,
12 so -- or the water colony.

13 The Squanga is specialized
14 for straining out microscopic plankton in the water, whereas
15 the ordinary lake whitefish, the widespread and commercially
16 important one -- not that the Squanga is not unimportant --
17 but the one which is commonly called lake whitefish, feeds
18 on the bottom, generally on snails or on clams.

19 The Squanga has got a lot
20 of gillrakers, which it uses to strain out food. It has
21 a lot of tubercules on it at spawning time. There's an
22 illustration in a paper here, which I can give you after-
23 wards, which shows the extraordinary development of these
24 tubercules. It's really a bizarre looking animal.

25 This thing has been known, by
26 some of the people in the vicinity for a very long time.

1 In 1934, Mr. Alfred Dickson, resident of Squanga Lake,
2 sent specimens of these things to the Royal Ontario Museum,
3 and said that these were a unique animal called the Squanga.

4 In 1945, Dr. Wynn Edwards,
5 who was the first person who surveyed the fisheries
6 resources in the Yukon Territory during the war, published
7 a reference to this Squanga as being a unique animal.

8 In 1958, Don McPhail and
9 myself came to Squanga Lake, and collected specifically to
10 find out if there was anything to this. We were very
11 surprised to find that Squanga Lake contained the Squanga,
12 which is certainly different, plus the ordinary whitefish,
13 and in 1960, a fairly intensive study was done on the lake
14 by a number of people, including Tom Northcote, and the
15 results of this are published in 1963.

16 For the last 7 years, a
17 number of different scientists, Dr. Jim Clayton from the
18 Freshwater Institute in Winnipeg, who is a biochemist,
19 Drew Bodali, who is just finishing his Ph. D. at the
20 University of Manitoba on this specific problem; Don
21 McPhail, Glen Geen, myself and a number of other people,
22 have collected in some 90 lakes in the Yukon Territory,
23 and we have collected in or collected data from something
24 like a hundred lakes elsewhere in North America, looking
25 into this problem.

26 On the basis of that amount

of information, we conclude that the Squanga occurs in four lakes in the Squanga Creek drainage system -- that's in Little Squanga, in Squanga, in Tina Lake and in Little Teslin Lake, and in Dezadeash Lake on the Haines Junction Road.

It probably occurred in Hansen Lake up near Elsa, but Hansen Lake was poisoned with rotinon in order to promote rainbow trout, and we have failed to find any survivors in any of the lakes around Hansen, so they're gone.

There are probably only three other areas in North America which contain pairs of whitefish like this, or which did, and they are, in fact, probably not the same pair I'm talking about now. One of these was Dragon Lake near Quesnel, in British Columbia, and it was poisoned with rotinon in order to promote rainbow trout fishing, and that animal is completely extinct. We only discovered this afterwards by looking at museum specimen.

There are probably some lakes in Maine, which contain pairs of fish which are comparable, but they are certainly neither of them is the Squanga, and finally, a pair of whitefish like this occurred in Lake Opiongo in Ontario, and it is extinct because somebody introduced cisco, a very highly adapted animal which feeds on plankton as lake trout food, and in

so doing, they apparently caused the extinction of the Squanga Lake form, because this animal never occurs where there are ciscoes, which are apparently better, they can out-compete the Squanga in feeding on plankton.

So we have lost more than half of the places in the world known to contain these extremely interesting, from a scientific point of view, pairs of whitefish, and as far as the Squanga which is the Yukon form, they, as I say, occur in Dezadeash Lake and in some of these Squanga Creek drainages. The Dezadeash population is probably not threatened by the gas line, it is, on the other hand, probably not exactly the same fish.

It's very different in the number of gillrakers, but probably the two forms in Dezadeash evolved similarly to the forms in Squanga.

Okay, in Squanga itself, the Squanga Creek is unique in that it drops over an impassable falls, shortly before it hits the Teslin River, and I think this is the reason for a lot of peculiarities of fish in this little drainage system. It has been protected from the entry of various species which would undoubtedly cause the extinction of the Squanga.

The whole Squanga Creek drainage is very unusual in the Yukon, in that it contains no ciscoes. As soon as you go over the hill into Snafu

1 Lake to the south, or the McLintock Creek drainage, you get
2 ciscoes and you get no squangas.

3 So one point to be made is
4 that the blockade on Lower Snafu Creek is absolutely
5 essential to the integrity of these animals, and I don't
6 know if this is a possibility even, but even a temporary
7 breaching of the waterfall or rapids there would probably
8 result in the destruction of fish in the lake, since there
9 are ciscoes in Teslin Lake itself.

10 The Squangas, in Squanga Lake
11 itself, spawn both in the inlet and the outlet streams,
12 from October to December. The young presumably spend the
13 winter in the stream and go back, go into the lake at
14 some unknown time following spring, but I don't know when.

15 A proposed gas line and the
16 cleared right-of-way for emergency repair vehicles along
17 beside it, crosses exactly where these fish have been
18 collected, actually spawning both in the inlet and in the
19 outlet, and those are the only places in the world where the
20 Squanga is known to spawn.

21 The other area which contains
22 them which is threatened by the pipeline is Little Squanga.
23 Little Squanga is a much smaller lake, and it has no sur-
24 face outlet. It presumably geologically was part of the
25 same drainage system, but if it now drains, it must be
26 under the highway subterranean, to Squanga Creek.

1 There are only two small and
2 probably intermittent creeks which enter Little Squanga --
3 I'm sorry, when I say Little Squanga, I should say Little
4 Teslin, I beg your pardon. Little Teslin is the lake which
5 lies closer to Johnson's Crossing on the south side of the
6 Alaska Highway.

7 Little Teslin is the one with
8 no surface drainage, and it has only two little intermittent
9 creeks which come from the south, one of which will be
10 crossed by the line, and one of which is almost crossed by
11 it. These are almost certainly not running in the winter,
12 and don't support spawning, so we suppose that both species
13 of whitefish which do occur in Little Teslin Lake, are
14 both spawning in the lake, and therefore because of this,
15 and the fact that there is no flushing in the lake, we
16 consider that the lake is extremely susceptible to dangers
17 from siltation, since the pipeline route goes just upslope
18 on the south side of the lake.

19 So fuel spills, erosion
20 run-off, anything which pours into the lake, seems to pose
21 a very great threat to these peculiar little fish which
22 have to lay their eggs in the lake.

23 That's the end of my rather
24 long, drawn-out dissertation. If you want me to ask any
25 questions of the consultants, I will do so.

26 MR. CHAIRMAN: I believe

1 there are questions from the panel for you, sir.

2 Mr. Trevor?

3 MR. TREVOR: The map I have
4 may not be entirely helpful to me, but in terms of rerouting
5 the right-of-way, I have difficulty in seeing where, indeed,
6 it could go, in reference to the concerns that you expressed.
7 Is there any routing in that vicinity which would stay away
8 from the problems which you have enumerated?

9 DR. LINDSEY: Well, I would
10 certainly agree with the desirability of the previous
11 suggestion that it / ^{stayed} to the south of Squanga and to the
12 south of Squanga Creek, which I think would probably remove
13 Squanga Lake itself from danger, but that still doesn't
14 satisfy the problem of Little Teslin Lake, and I have no
15 suggestions, unless one were prepared to shift the cross-
16 ing of the Teslin River up or downstream.

17 MR. CHAIRMAN: Mr. Wykes?

18 MR. WYKES: Dr. Lindsey, the
19 Squanga whitefish you mention, you say is an endangered
20 species. Is anything known about the population of Squanga
21 in that particular system, as to whether it is at a fairly
22 high level or not?

23 DR. LINDSEY: It's very abund-
24 ant there. It's only endangered by the pipeline. It's
25 rare in that it occurs in very few places, but where it does
26 occur, it is quite abundant.

1 MR. WYKES: So there are, at
2 present, no controls to protect it as such, in terms of
3 angling restrictions or anything?

4 DR. LINDSEY: No. I don't
5 think that it's susceptible to angling, just to gillnetting.

6 MR. CHAIRMAN: Ron McLaughlin
7 is going to have to leave, or are you leaving? You've left,
8 have you? Okay.

9 Any more questions from the
10 panel?

11 Would you like to respond to
12 this unique problem?

13 MR. BOUCKHOUT: It's a quite
14 difficult one to respond to. I gather that the significant
15 concern is, I guess you don't have a set of maps with you,
16 but Squanga Lake itself, and the immediate environs, the
17 other lakes being in the immediate vicinity of Squanga
18 Lake, is that right?

19 DR. LINDSEY: Squanga Lake
20 and Little Teslin are the two main ones. It does occur,
21 the pair occurs in Little Squanga Lake too, upstream.

22 I had been going to suggest,
23 by the way, that the pipeline crossing might go immediately
24 upstream of Little Squanga Lake, between there and the
25 headwater of Mitchi Creek. How about that?

26 MR. MCNALLY: I would

1 hesitate just to touch, sir, in reference, that although I
2 do not have all the details at hand with reference to a
3 detailed survey indicating the difference in elevation
4 between the headwaters, of the headwaters which are con-
5 tributory to both Mitchi and Squanga, but it is just a
6 little touchy moving in that direction, in that there are
7 cisco, of course, in the Mitchi drainage.

8 If it twists, if it drains
9 down into Squanga, we may have introduced a bit of a pre-
10 dation problem. On the other hand, drainage switching
11 towards Mitchi may also create a problem, so your alternate
12 -- it's most definitely an addressable suggestion, sir, but
13 I would tend down towards our original suggestion.

14 The reason that I of course
15 pick up with reference to Mitchi drainage, is it has been
16 clearly identified as supporting a fairly clearly, a
17 Chinook spawning area, which we value quite highly as well
18 in its contributory sense, to McLintock, and so I am relative-
19 ly protective of that particular drainage as well, sir.

20 DR. LINDSEY: Yes, although
21 the salmon don't come up as far as Upper Lake, I don't
22 believe.

23 MR. MCNALLY: No, no. I
24 didn't intend to mean that.

25 DR. LINDSEY: So there are
26 spots in between the Upper Lake and Little Squanga Lake,

1 I don't think this would pose a threat to the downstream
2 spawning of the salmon.

3 MR. MCNALLY: Excuse me, sir,
4 the point I'm trying to get is, at the root at, is the
5 potential headwater capture.

6 DR. LINDSEY: Oh, yes.

7 MR. CHAIRMAN: No doubt when we get
8 into the wildlife issue, we'll find other constraints on
9 this routing.

10 I have a question about Little
11 Teslin. The highway now skirts around Little Teslin fairly
12 closely. Do you know of any effects the highway have had on
13 the fish population?

14 DR. LINDSEY: No, I don't,
15 I didn't visit there until the highway was built. It
16 certainly hasn't caused their extinction.

17 MR. CHAIRMAN: But your main
18 concern would be spills into Little Teslin Lake, rather
19 than sedimentation or --

20 DR. LINDSEY: No, I would say
21 sedimentation, because at least one of the little streams
22 will be cut right across by the pipeline route, and it seems
23 to me gradual run-off of silt, perhaps over a period of
24 years, is a very real possibility.

25 MR. CHAIRMAN: Thank you.
26 Are there any other comments on the aquatic side of the

1 Mount Mitchi-Squanga Lake alignment?

2 MR. BOUCKHOUT: One quick
3 comment, Dr. Hill, or perhaps in the form of a question.
4 Would the concern be completely alleviated if the pipeline
5 were to turn south in the vicinity of the headwaters, or
6 I guess not -- yes, in the vicinity of the headwaters of
7 Judas Creek?

8 MR. CHAIRMAN: And this would
9 then come into the Alaska Highway to the west of Summit
10 Lake, would it?

11 MR. BOUCKHOUT: That's the
12 possibility that --

13 MR. CHAIRMAN: Well, I can't
14 answer the question. Would you like to comment?

15 MR. MCNALLY: I would say it
16 would appear to be, yes, it looks acceptable.

17 MR. CHAIRMAN: Have you got
18 a map there, Dr. Lindsey?

19 DR. LINDSEY: Not that shows
20 Judas Creek, I'm afraid.

21 I don't think that does
22 Little Teslin any good.

23 MR. BOUCKHOUT: No, I was
24 speaking particularly with respect to Squanga Lake itself.

25 DR. LINDSEY: Well yes, sure,
26 I think that's good as far as Squanga is concerned.

1 MR. BOUCKHOUT: In other
2 words, the concern does not relate to the southern end of
3 Squanga Lake?

4 DR. LINDSEY: I think that's
5 a distinct improvement over the present route.

6 MR. CHAIRMAN: I think we
7 should, we have advanced a certain distance in thinking
8 about the problem and ways to avoid it. I think probably
9 we should hear from the other aspects of this particular
10 problem, before we get the pipeline redesigned.

11 Would anybody like to tackle
12 their particular problem about Squanga Lake?

13 Mr. Klassen?

14 MR. KLASSEN: Yes sir, we
15 have several concerns in that area. Sitting up with me
16 here now is Mr. David Mossop, the Wildlife Branch, ornithologist on my immediate left, and Dr. Holtz and Dr.
17 Theberge.
18

19 We have been following this
20 discussion about the fishery in the Squanga Lake with
21 considerable interest, because it affects some species
22 that we are concerned about, not necessarily this rare
23 fish but the fish in the lake in general.

24 Our research this summer has
25 identified a number of tree nesting raptors in the area.
26 Squanga Lake is the only location in the southern Yukon

1 that we have identified to date that has ospreys nesting
2 on it, and ospreys, of course, feed principally on fish.

3 We -- well staying with our
4 concerns about raptors for the moment, we have a few
5 questions that we would like to address to Foothills and
6 their consultants, and not at all in a confrontation
7 approach, but I would like to ask whether Foothills or
8 their consultants, consultant Mr. Rowe, are familiar with
9 the number of breeding raptors in the Squanga Lake area
10 at this time?

11 MR. ROWE: Yes, we have done
12 some research in this area, and have located a number of
13 raptors in the area.

14 MR. KLASSEN: Could you just,
15 for the record, spell those out for the panel?

16 MR. ROWE: The team of which
17 I was a member, found an active bald eagle nest at the
18 north end of Squanga Lake. I've been advised also by
19 members of the Wildlife Branch, that they have seen ospreys
20 in the area this year.

21 I believe I'm right in saying
22 that there is not an active nest that has been located
23 there this year, but one has been in the past. Correct me
24 if I'm wrong.

25 MR. KLASSEN: I'm not sure
26 on that, but I'll check with the person that did the

1 research.

2 MR. ROWE: That ospreys were
3 seen in the area?

4 MR. KLASSEN: Yes. Given
5 that there are inactive eagle and osprey nest sites in the
6 Squanga Lake area, then what importance do you attach to
7 these inactive nests?

8 MR. ROWE: The inactive nests
9 can be used, well let me start again. Bald eagles may use
10 more than one nest over a period of years. Inactive nests
11 this year may be an active nest next year, so to speak.

12 To my knowledge, ospreys
13 do also exhibit the same kind of behaviour, so inactive
14 nests can become important in later years.

15 MR. KLASSEN: Has Foothills
16 been advised, and perhaps I'm asking you a question here
17 that you're not prepared to answer, but has Foothills been
18 advised of the sensitivity of this area, because of the
19 fish species, and how any adverse effect on the fish would
20 affect the tree nesting raptors in the area, and was Foot-
21 hills advised to reroute out of that area because of the
22 concerns for raptors?

23 MR. ROWE: I think we've been
24 aware all along of the relationship between fish and fish
25 eating raptors, and to that extent, Foothills is aware and
26 has been told.

1 As far as recommendations to
2 Foothills go, we have stated that where an alternate route
3 is available, which will take the pipeline away from a rare
4 and/or endangered raptor, that it is preferable, and in this
5 case, such would be preferable.

6 The line which Mr. Bouckhout
7 just noted on the map, when talking to Dr. Lindsey, would,
8 to my mind, remove the potential impact on these birds.

9 MR. KLASSEN: What distance
10 do you recommend that a line, that the line be routed away
11 from raptor nests?

12 MR. ROWE: It's preferable to
13 have a distance of two miles between the route and an active
14 raptor nest.

15 MR. KLASSEN: I didn't have
16 access to a map during the discussion concerning rerouting,
17 but would that route that Mr. Bouckhout indicated, in fact
18 put the route two miles away from the bald eagle nest and
19 the inactive osprey nests?

20 MR. ROWE: Yes, it would, and
21 I might also add that I feel that if the pipeline route
22 cannot go two miles from these active nests, that suitably
23 mitigating measures which may minimize the impact, might
24 include timing precautions, such as building outside a
25 sensitive time of the breeding season, and in that sense,
26 it could be minimized in another way.

1 But as I said before, the
2 relocation of the route is preferable.

3 MR. KLASSEN: Certainly.
4 Switching then from raptors in the Squanga Lake area, and
5 we will be referring to raptors in the Ibex, and I think
6 perhaps also in the Kluane Park, Sheep Mountain areas of
7 specific concerns, switching to caribou in the Mitchi-
8 Squanga area, we expressed our concern about these animals
9 during the June hearings, and at this time, I would like
10 to ask Dr. Theberge to give us his comments, since he has
11 been doing the studies in those areas, in the Mitchi-Squanga
12 area on caribou and perhaps he can give us his concerns
13 about the summer range that we referred to earlier, and
14 the winter range.

15 MR. CHAIRMAN: Fine. Before
16 you do, Dr. Theberge, I think we can all stand a cup of
17 coffee and a little stretch.

18
19 (PROCEEDINGS ADJOURNED)
20
21
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26

1
2 (PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

3 MR. CHAIRMAN: Dr. Theberge?

4 DR. THEBERGE: I'm sorry
5 that Ron McLaughlin has left. That means that Foothills
6 doesn't have their caribou man, which changes my approach
7 a little bit.

8 In our document, we have
9 tried to lay out the sort of biological information that
10 is necessary to manage caribou, and we've done this in a
11 great amount of detail, particularly regarding the low
12 productivity in mountain caribou, and Mr. McLaughlin
13 mentioned yesterday that he was aware that this is a
14 normal situation.

15 I just want to know if Mr.
16 Bouckhout, I don't know how you can handle this without
17 your man, but try anyway, would respond if he was respon-
18 sible for managing the caribou herd and assuring the people
19 of the Yukon Territory, that with the additional access
20 that's going to go into that area, how you could be sure
21 they were going to survive as a viable population.

22 MR. BOUCKHOUT: Dr. Theberge,
23 I assure you I share your sorrow. However, I do have some
24 familiarity with ungulates having worked on ungulates
25 for sometime myself.

26 With respect to this area,

1 it's very commonly known obviously, that the area does serve
2 as a wintering area for woodland caribou.

3 Recent information that you
4 mentioned, or one of your branch mentioned at the previous
5 phase of hearings, indicated that there were also caribou
6 in the area in the summertime.

7 Now, I haven't seen that
8 information, I haven't seen the information reported --

9 DR. THEBERGE: Just for the
10 record, it's in our brief, and I don't know if you've had
11 time to --

12 MR. BOUCKHOUT: No, I haven't
13 read it yet.

14 We did fly a survey last
15 month in the area, in the vicinity of the pipeline route.
16 We saw no caribou at that time. We're flying surveys in
17 the area right now, in fact, I don't know where they are
18 today, but I believe in fact, they have already flown the
19 Squanga area, but the biologists who are flying the surveys
20 now, aren't with us today either, so I can't answer for
21 them.

22 In essence, my summation is
23 that the area is very important as a caribou wintering
24 area. Portions thereof may also serve as a summering area.
25 I think, aside from very specific times, you would agree
26 with me that winter is a more critical time for the caribou

1 than summer, in terms of direct disturbance. That in
2 terms of habitat destruction, the right-of-way itself is
3 relatively small in comparison to the overall area, that
4 ungulates in general, are less liable to be seriously
5 impacted by activity in the summer than in the winter.

6 This is not a broad brush
7 statement, because I realize and recognize fully that lamb-
8 ing areas of Dall sheep, for instance, are very important
9 in the springtime, so that Dr. Hough doesn't have to tell
10 me that.

11 In my assessment then, of the
12 overall pipeline right-of-way in this area with respect to
13 caribou, based on what we know, that I think personally
14 that if the construction is controlled; if the disturbance
15 is kept restricted to the right-of-way; if construction
16 is timed to avoid the critical wintering period, that the
17 caribou in this area will not materially suffer in the long
18 term.

19 Now, you did mention provision
20 of access. I think this is another important point. Of
21 the area in
22 course, in/general, there is already some access; for
23 instance one, in the wintertime, can quite easily go up
24 the Squanga Lake chain itself. The right-of-way, as I
25 mentioned earlier, will not contain a permanent road.

26 There is a chance, however,
that the right-of-way being a cleared feature, could provide

1 access into the area. In that respect, one would have to
2 consider what kind of access might that provide, what kind
3 of vehicles might utilize access into the area.

4 In my estimation, it would
5 be quite easy to control access via conventional vehicles,
6 such as pick-up trucks and such vehicles. If we were to
7 consider much smaller vehicles, such as skidoos, motor-
8 cycles, perhaps, that's a different story. The viability
9 of motorcycles in the summer, in particular, would be rele-
10 vant to the condition of the right-of-way. In the winter-
11 time with skidoos, certainly there's a distinct possibility
12 that access could be provided that would be suitable for
13 such machines.

14 I'm not currently aware of
15 any particular ways that one might be able to prevent this.
16 Whether if any physical means could be installed on the
17 right-of-way to prevent access to it from the main open
18 points, which would be at the point where the highway, or
19 where the pipeline route, rather, leaves the immediate
20 highway area, and again at the point where it returns. I
21 really couldn't say.

22 Additionally, it could be a
23 matter of regulatory control. This puts it more back into
24 your area than in mine, I appreciate, but that's another
25 factor that could be taken into consideration.

26 I think with those statements,

1 it pretty much sums up my current feeling on it. I'm not,
2 although the indication may be so, I'm not dead set on this
3 particular right-of-way, that it absolutely has to go, but
4 when considering the current location, and the implications,
5 and by implications I mean the broad based implications of
6 what else can be done, where else might a right-of-way go,
7 what are the implications of potential alternate locations,
8 to not only biological concerns but land use concerns,
9 engineering feasibility, slope stability, these are all
10 factors that I've said before, and probably too many times
11 now, everybody should know it, that must be taken into
12 account.

13 In that respect, given the
14 kinds of concerns that are realized, in particular in the
15 Squanga Lake area itself, I certainly appreciate all the
16 data that is being brought forward, and would appreciate
17 if whoever brings such data forward has time and happens
18 to think about it, that they pass that on to us. That this
19 information should be critically evaluated, and in that
20 respect then, utilized in reconsidering the particular
21 alignment.

22 By saying that, I don't mean
23 that we are definitely going to change it, but obviously
24 the information would be used in reconsidering it to see
25 what can be done, either from a locational point of view,
26 or from adoption of other related protection measures.

1 DR. THEBERGE: Well, you're
2 right that we're more concerned with winter range than
3 summer range, we don't know the extent of calving in the
4 area. I have one observation that I made myself, it's
5 reported in here, June 17th, a cow and a calf, three and
6 a half miles from the alignment. We've had a few observat-
7 ions of bulls. There's no doubt that caribou are using
8 that block, but we really don't know where the bulk of
9 calving occurs. It normally occurs in the sub-alpine and
10 it's hard to see and we just don't have a lot of data.

11 Regarding the winter, it's
12 the work of your consultants that have produced the best
13 data on the caribou wintering in there. It was done on
14 two flights during the winter, and that's good that they
15 were taken, but it's a very slim amount of information,
16 and I tried to reflect in our brief that caribou, mountain
17 caribou operate on a slim margin of safety.

18 If we are talking of a herd
19 of approximately a hundred animals, which is your consult-
20 ant's estimate, recruitment to breeding ages is in the
21 order of, you can expect perhaps 15 animals, so an over-
22 kill would represent something in excess of 15 animals,
23 perhaps. That's how slim the margin is.

24 I think that while we are
25 concerned about construction and danger of fire and this
26 sort of a thing and would certainly, if there was

1 construction in this area, want to insist and hope that you
2 would agree to, as I think you have, that everything would
3 be done in the summer, I mean everything.

4 Still, our concern is that
5 there is access, and the panel, the Inquiry must fully
6 realize that if there is anybody in Whitehorse who hunts
7 caribou and doesn't know about this herd now, he's not
8 following the proceedings very closely. I'm not criticizing
9 the panel for this, I don't know how you avoid this sort
10 of a situation, but it's a reality, and it's the herd
11 closest to the largest population in the Yukon Territory,
12 it's just down the road, it's a short drive.

13 The alignment leaves the high-
14 way at sort of an acute angle, which makes it hard to put
15 down barriers. I'm particularly concerned about snowmobiles
16 getting in via Squanga Lake or from the highway, and you can
17 erect gravel berms and drop some trees and all, and if
18 snowmobilers are persistent and want to get in there, it's
19 an exceedingly difficult thing to get them out.

20 So because we just don't
21 have any information to know how big that herd is, what its pro
22 ductivity as a herd is, and whether 15 or really there's
23 200 caribou, and 30 would be an allowable kill, just what
24 margin of safety we're working with. Our stance in our
25 brief is very clearly that the Wildlife Branch could not
26 assure the people of the Yukon Territory of that herd's

1 welfare, if that pipeline is built in, and the concerns
2 being primarily again, later access rather than the con-
3 struction.

4 MR. BOUCKHOUT: Might I, Dr.
5 Hill, turn the tables for a moment and ask a couple of
6 questions?

7 MR. CHAIRMAN: I was just
8 going to do that.

9 MR. BOUCKHOUT: Very well.

10 MR. CHAIRMAN: And you can
11 follow.

12 In terms of the range, if you
13 don't wish to answer because you think it might endanger
14 the herd, don't and give me the information privately. I'm
15 sure that I won't endanger the herd, but in terms of the
16 range, is it mostly -- is it around Squanga Lake, or is it
17 mostly towards Mount Mitchi, the critical range?

18 DR. THEBERGE: Well, it looks
19 like the caribou use the whole area. There were -- just a
20 minute here. The Beak report concludes, just hang on
21 a second here.

22 Beak consultants observed 35
23 caribou on February the 4th, 1977, of which 3 were within
24 three miles of the route, and a few days later, 47 caribou
25 of which 30 were within three miles of the route, so right
26 on that area, there were observations made north as well.

1 We have another observation
2 that I reported in the document that's tabled, of 70 cari-
3 bou seen in late February on the ridge running from Jake's
4 Corner to Squanga Lake, so that means that even the type of
5 partial pulling out that we were discussing a few minutes
6 ago, related to the fisheries, as I was sort of following
7 it, would still indicate a possible problem in that area.

8 So we don't have a lot of
9 specific information. Farther north, where one of the
10 registered guides works, there are caribou and perhaps more
11 of them, and whether these are the same animals, the same
12 herd that he is hunting, we don't know. I'm referring to
13 north of Mitchi Creek, but I suspect so, because Beak's
14 consultant of 100 plus caribou in that area in the winter,
15 the Squanga-Judas Creek-Mitchi area, we just don't find
16 that number in the summer.

17 Some are using that Mitchi
18 block, the others we don't know.

19 MR. CHAIRMAN: Okay now, your
20 main concern seems to be, from listening to the conversation
21 is, increased hunting pressure because of increased access,
22 rather than effect because of the construction of the pipe-
23 line itself?

24 DR. THEBERGE: That's right.
25 The construction of the pipeline could have trouble -- well,
26 if it's in summer, that reduces the problem. Winter

1 surveillance in the early periods where Mr. Bouckhout indi-
2 ciated there might be weekly or bi-weekly trips of some
3 type along the pipeline, could cause caribou at the time of
4 nutritional stress.

5 If anything happens that
6 causes pregnant females to abort, with a low productivity
7 like we're talking about, we're in trouble, but primarily,
8 I think our concern is on access in hunting and the close-
9 ness to Whitehorse, and the now rather wide publicity that
10 this area has had as a caribou range.

11 MR. CHAIRMAN: Thank you.

12 Mr. Bouckhout?

13 MR. BOUCKHOUT: Again, I would
14 make the same comment Dr. Hill has made, that you certainly
15 need not answer these questions definitively if you so
16 desire.

17 The first one is, are you
18 not currently conducting studies on this population?

19 DR. THEBERGE: We've had
20 I think, three flights using the money that was allocated
21 for pipeline inventory, which is, as of the 15th of July
22 finished, as far as I'm aware, and Dr. Hough might want
23 to comment.

24 We have no special budget
25 allocation to continue any further monitoring of that herd.

26 MR. BOUCKHOUT: The second

1 question would be, would you as one knowledgeable of ungulate
2 populations, consider that this is liable to be an isolated
3 population?

4 DR. THEBERGE: How isolated,
5 I'm not sure. It's typical of mountain caribou to form
6 herds of 100 to 200 animals, of which there is probably
7 limited overlap between herds.

8 In our studies in the Burwash
9 Uplands area, we suspect that there is overlap, because
10 there are herds nearby on the Wolverine plateau and
11 Klutlan Glacier area.

12 In this particular area, if
13 you look at the Mount Mitchi-Squanga area and on north,
14 where there is some more tundra habitat, there is some
15 isolation. The Teslin River and a large valley, we've had
16 a few caribou observations in the Big Salmon range, and I
17 guess really the answer is I'm not sure. Probably they're
18 a reasonably isolated population.

19 If they're an isolated
20 population, there is this ever-present danger of local
21 extinction that I bring out in my report, and I quoted
22 caribou biologist, Ralph Ritzi, who works with the B.C.
23 Fish and Wildlife Service, and who's done a lot of research
24 on caribou, but the danger to mountain caribou is not a
25 total number extinction.

26 A current estimate, for

1 example, or guestimate of number of caribou in B.C. is
2 40,000, plus or minus 10,000. That's a guestimate, but the
3 danger is that herd by herd, where you've got these local
4 populations, you could have local extinction after an
5 excess hunting situation, and I quoted three places that I
6 know of, including the Chilcat Pass, there isn't definitive
7 data to prove that hunting caused that decline, but you
8 get this correlation access, easy access for hunting, and
9 pretty soon, herds start to dwindle . That's what we're
10 afraid of.

11 MR. BOUCKHOUT: The reason I
12 asked that question was that your scenario of recruitment
13 for that population seemed to be prefaced on the fact that
14 it was an isolated population. In other words, you're
15 considering only recruitment within the population numbers
16 itself, as opposed to recruitment from adjacent areas?

17 DR. THEBERGE: The extent to
18 which we're wrong about that, we wish we knew.

19 MR. BOUCKHOUT: Just a
20 couple of very brief questions: (1) Are you aware of any
21 hunting in the area now for caribou?

22 MR. KLASSEN: If I may
23 respond to that. We do know that some of the residents
24 that live and/or trap in the area of Squanga Lake, do take
25 some caribou from there, but our hunter questionnaire
26 returns are not so well refined as yet, that we are certain

1 that they come from that specific population.

2 MR. BOUCKHOUT: And the last
3 one, which is the one you may wish to defer, it is my under-
4 standing that there was some indication given by, I believe
5 biologists in the Wildlife Branch, as to a particular move-
6 ment pattern exhibited by this herd in our particular
7 direction. I'll leave the question at that, and you can
8 pick it up from there.

9 DR. THEBERGE: To quote our
10 report, which is a public document, most of these caribou
11 may move northwest in summer, to the Mount McIntock-Mount
12 Byng area, although this is a supposition. Some, however,
13 calve near, and some are on the Mount Mitchi block south
14 of Mitchi Creek.

15 At the present time, this
16 supposition about summer movement, ^{because} we just don't see them
17 all on the Mount Mitchi block that Beak reported in the
18 winter, is virtually all the information that we're sure
19 of, or even can suppose on the movements.

20 It's a big blank in knowledge,
21 and that's why we felt that if we were to comment, be able
22 to comment on the potential impact really well on this herd,
23 we would have to study them through at least one year,
24 probably two, and why I say this is a good example is this
25 past winter, and I'll cite some caribou work I was doing
26 near Smithers, where a light snowfall year, the caribou

1 didn't go into their traditional winter range at all, they
2 stayed on the tundra, so if you hit a year like that, the
3 caribou aren't going to tell you what they're supposed to
4 tell you.

5 So with that sort of a ration-
6 ale, we've suggested that we need two years for us to
7 adequately comment and answer the type of questions you're
8 asking.

9 MR. BOUCKHOUT: Have they
10 ever been sighted on or south of the highway?

11 DR. THEBERGE: Not to my
12 knowledge. Mr. Klassen may comment.

13 MR. KLASSEN: There are
14 caribou south of the highway, and residents of Teslin have
15 told me that they have seen caribou, presumably from this
16 population, crossing in the vicinity of Judas Creek, and
17 we accept that at face value, although we have no confirm-
18 ation by Wildlife staff.

19 MR. CHAIRMAN: Mr. Klassen?

20 MR. KLASSEN: To sort of sum
21 up our concerns in the Squanga area, I'll comment as well
22 on furbearers.

23 Mr. Westworth, who was here
24 this morning, has indicated in the report that he is
25 concerned about beavers, muskrats, otters and mink, as you
26 would expect to find in an area that has as much water as

1 the Squanga area does, and because of the association of the
2 latter to otter and mink with the fish populations that
3 exist there, and because of our concern over the caribou
4 in the area, and lastly, our concern about, especially the
5 osprey in the Squanga Lake area as well as the bald eagle,
6 the recommendation that we feel comfortable to make at this
7 time, is that the pipeline should not go through the Squanga
8 Lake area as is presently proposed.

9 We recommend that the pipeline
10 follow, as closely as possible, and of course, this will
11 have to be based on, again, a low level of information about
12 the wildlife along the highway itself, but we recommend
13 that the pipeline follow the Alaska Highway. Instead of
14 swinging westerly at McLintock, we suggest that it follow
15 the Alaska Highway, and then pick it up again, perhaps in
16 the vicinity of Little Teslin Lake.

17 I do not have a map here,
18 and we have not drawn a line on a map, but that's our gener-
19 al recommendation, and the question that I would like to
20 ask Mr. Bouckhout is, what objection do you have to that,
21 other than the 13. whatever it was, million dollars?

22 MR. BOUCKHOUT: I didn't
23 voice that as an objection either, Mr. Klassen, you mis-
24 read me.

25 MR. KLASSEN: I apologize.

26 MR. BOUCKHOUT: No suggestion

1 other than the considerations I have already mentioned.
2 That would have to be looked at as a potential alternate.
3 In other words, there may be other implications associated
4 with that route.

5 MR. CHAIRMAN: Mr. Chambers?

6 MR. KLASSEN: Could I ask
7 another question?

8 If it wasn't just economic
9 constraints, then why wasn't a route that at least to us
10 appears obvious, considered?

11 MR. BOUCKHOUT: We selected
12 the initial route, and having selected that route, we then
13 have been working on studies and consideration of the
14 route. If relocation is then deemed warranted as a result
15 of those studies, we then consider relocation.

16 If relocation is not deemed
17 warranted necessarily, then we don't generally adopt
18 relocations.

19 MR. KLASSEN: But on the
20 basis of our present limited knowledge, it would seem to me,
21 at least, and you may not agree, that it would be, from an
22 environmental point of view, much less detrimental to
23 follow the present Alaska Highway alignment.

24 MR. BOUCKHOUT: It might be.
25 Having heard from Dr. Lindsey, yourselves and so on, it's
26 obvious that something like that must be considered, and

Mr. Bouckhout
Mr. Klassen
Mr. Chambers
Mr. McNally

1482

1 I assure you it will be.

2 MR. KLASSEN: Thank you.

3 We'll look for the report on that.

4 MR. CHAMBERS: I think these
5 are the comments that I wanted to make. We have another
6 scenario developing here of going along the highway. In
7 flying over the route, and we followed the highway, you seem
8 to be in a fairly tight valley from Jake's Corner to
9 Squanga Lake on the highway system, which parallels Little
10 Atlin Creek, as well as several other creeks, and I would
11 like to get some reaction from the Fisheries people here,
12 as to environmental effects they see of following the scenario
13 that the biologists have developed as an alternative to
14 the existing one.

15 MR. MCNALLY: One moment,
16 please. Very quickly to respond to you in a 40 second
17 return on your scenario, the reason we made the initial
18 recommendation was that, as you can appreciate from checking
19 on the map, that the additional impact to the fisheries is
20 relatively minor by making the small alteration we
21 suggested.

22 To follow explicitly to your
23 question of what happens when you make the routing to Jake's
24 Corner, then your comment is fair, as evident by the asso-
25 ciation of the stream aside, right aside to it. Your
26 comment is also fair on your relatively narrow alignment.

MR. KLASSEN: Was that

1 addressed to me to answer now, or the -- okay. Yes, we
2 flew along the highway from Little Teslin Lake to Jake's
3 Corner, and you're right, the creek, if it's Little Atlin
4 Creek, I'm not sure, does have a series of beaver dams in
5 it, indicating that the stream is aquatic furbearer habitat.

6 However, as -- by aquatic in
7 this case, I mean beaver and muskrat, and of course we
8 would have to look, because there are a number of small pot-
9 holes lakes there that might have muskrats in them, and we
10 could reasonably anticipate that there would be otters and
11 mink there as well, if the other areas are any indication.

12 If the -- if subsequent
13 research should indicate that there are; we are mainly con-
14 cerned there with beavers and muskrats, then weighing that
15 area against the Squanga area, only so far as furbearers
16 are concerned.

17 I think this would be the
18 lesser of two evils, because as Mr. Westworth pointed out
19 this morning, beavers and muskrats tend to adapt fairly
20 well to disturbance, unless I misinterpreted him.

21 MR. CHAMBERS: So you have
22 put some kind of a priority rating on your species here,
23 with more concern on the mountain caribou, than you would
24 be concerned about the furbearers, that may destruct the
25 habitat along the valley floor?

26 MR. KLASSEN: I don't like to

1 say that a mountain caribou is more or less valuable than
2 one beaver or one muskrat, but given that beavers occur in
3 practically all of our watersheds in the Territory, and
4 caribou distribution is somewhat more limited, I think that
5 it's fair to say yes, that we would be less concerned about
6 the beaver along the Little Atlin Creek, than we would be
7 about the mountain caribou in the Mitchi-Squanga area.

8 MR. CHAIRMAN: Does anyone
9 else wish to address the Squanga Lake alignment issue?

10 MR. MCNALLY: Just -- excuse
11 me, sir, just a closing comment on that.

12 In the final point, with
13 reference to Mr. Chambers' comment, of course if the align-
14 ment was to explicitly follow the roadway from Jake's
15 Corner right through, and stayed within the right-of-way,
16 the highway right-of-way, which as I understand has roughly
17 100 feet of clearing on either side of the road, the pro-
18 posed pipeline right-of-way in total, which is 90 feet,
19 could in effect, physically be accommodated within that
20 right-of-way.

21 So just if you're looking
22 straight off-the-cuff comments, then in extreme point of
23 fact, yes, it could be accommodated within that corridor,
24 and as the corridor is disrupted, then further disruption
25 would not, in my mind, create a significant impact in
26 fisheries.

1 Are there any questions from
2 the panel staff? Yes, Mr. Lister?

DR. LINDSEY: I'm sorry, Mr. Lister, I don't know how far down the Squanga outlet the fish spawn. I would suspect that it's in the top few hundred yards mostly, but I haven't sampled all the way downstream.

4 The samples which we obtained
5 from Billy Hall and Fisheries officers, have all been taken
6 within a few hundred yards of the lake.

1 With respect to the second
2 question, the falls are within a few hundred yards of Teslin
3 River, right at the lower end.

4 MR. LISTER: Thank you.

5 MR. CHAIRMAN: Any comments,
6 questions from the audience? Dr. Theberge?

7 DR. THEBERGE: I've got a
8 question, I can't do it in detail, to a newspaper clipping,
9 but I think it was June 17th, that referred to a Squanga
10 Lake power development, proposed by N.C.P.C., and perhaps
11 the Fisheries people would respond to that if they know
12 anything more about it.

13 MR. CHAIRMAN: We're, on
14 Monday, I believe, we're hearing about associated develop-
15 ments, and we're hearing from N.C.P.C., so I would rather
16 leave it to that time.

17 Any more comments on the
18 Squanga Lake issue? No. Okay, could we move to the next
19 issue? I would suggest Sheep Mountain.

20 Mr. Bouckhout, would you
21 generally like to introduce the subject by explaining how
22 you came to your layout across the Slims River, and around
23 the Sheep Mountain?

24 MR. BOUCKHOUT: In the
25 region of Sheep Mountain, as everyone recognizes, there
26 are currently three alignments; one being the Alaska

1 Highway alignment; the second one being a pole line right-
2 of-way, and the third one being the Haines-Fairbanks
3 products line right-of-way.

4 In this entire area, we have
5 considered the implications of other rights-of-way to our
6 pipeline system, in particular, the implication of the
7 Haines-Fairbanks right-of-way, which has already been
8 addressed, and may be addressed again in the future.

9 In the Sheep Mountain area,
10 we have addressed alternatives of routing a pipeline from
11 the mid-point or northwesterly point of Kluane Lake, to
12 the southeasterly point. The basic options are really
13 three:

14 (1) being to remain on the
15 southwesterly shore of Kluane Lake, along the highway and
16 where the other two rights-of-way are located;

17 (2) being to route on the
18 opposite side of the lake and

19 (3) being a combination of
20 the two which would involve a lake crossing.

21 In our estimation, from our
22 reviews of these three options, the most stable, acceptable
23 option is the one currently indicated, generally parallelling
24 the existing rights-of-way. The other two options are much
25 less desirable, both from an engineering suitability point
26 of view, as well as from a logistics point of view.

Our current alignment on Sheep Mountain itself, on the photomosaic alignment sheets, is indicated on the pole line alignment. We recognize that in establishing a location in this area, that much consideration was necessary. We recognize that we would have to, in depth, evaluate the alternatives, and therefore, as an initial selection, one of the existing rights-of-way was selected to indicate the location of an alignment for continuity on the alignment sheets.

We have subsequently been considering this area. Such consideration has included the joint meeting attended by various personnel from various interest groups. Two of those people are here today.

The particular groups which were concerned included Foothills, Parks Canada, the Wildlife Branch, the Federal Department of Public Works.

The topic of Sheep Mountain was addressed in fair detail at the last phase of the E.A.R.P. hearing. The implications were addressed, and the various considerations involved, and I think I will leave it at that, and respond to questions as they arise.

MR. CHAIRMAN: Thank you.

Mr. McNally, would you like to comment on the Sheep Mountain issue?

MR. MCNALLY: No sir, we have no major issue with Sheep Mountain itself. The Slims, of

1 course we do, but Sheep Mountain, no, I'll withdraw.

2 MR. MEYER: Could we have some
3 clarification there, Mr. Chairman? Are we now dealing with
4 the mountain itself, or the alignment around the mountain
5 and along Kluane Lake?

6 MR. CHAIRMAN: We're dealing
7 with a way to get around Kluane Lake, basically, which
8 includes crossing of the Slims.

9 MR. MCNALLY: The crossing
10 on the Slims is, of course, of direct consequence to us.
11 We envision that it will be a major problem in constructing
12 it because of the length of the crossing, the details of
13 which are not evident at this date, in full detail.

14 We've had some discussion
15 earlier centred on it. I would leave it at that stage at
16 this moment.

17 MR. CHAIRMAN: Okay, Mr.
18 Masyk, would you like to state your concerns?

19 MR. MASYSK: Thank you, Mr.
20 Chairman. The concerns I am about to voice here, I voice
21 both to the panel and to the Foothills people before, and
22 basically our position is that we are neither for or
23 against the pipeline, but we are for the National Park.

24 Sheep Mountain happens to be
25 a very unique area in Kluane National Park. It's been
26 recognized by the I.B.P. panel as such, and is certainly

1 recognized by Parks Canada as such, in that we have desig-
2 nated it as a potential Class 1 area, because of its unique
3 year-round habitat for Dall sheep. Most important, of
4 course, as a winter range.

5 As Mr. Bouckhout pointed out,
6 there are a number of rights-of-way and utilities going
7 through a very, very narrow corridor in the vicinity of
8 Sheep Mountain. The effects of those corridors are readily
9 seen there.

10 One can see the telephone line,
11 the existing pipeline is evident from the road, as well as
12 the cut on the highway itself.

13 We are concerned that yet
14 another major construction, such as that of a pipeline,
15 or the realignment of the Alaska Highway or any other, can
16 seriously jeopardize that resource, both biologically and
17 aesthetically. The aesthetics perhaps is much more evident
18 to the park visitor, than the biological, but which one
19 has greater consequences to the park is difficult to evaluate
20 at this time, unless we have a more accurate alignment.

21 I don't think that examination
22 of the proposal or the sheets that we were given can really
23 accurately outline the alignment as it might be. That is,
24 it's quite critical if even they were to depart by a thous-
25 and feet from the present alignment, which is difficult to
26 tell on those maps.

1 We are concerned, certainly
2 from the direct physical effects on that area, and at the
3 same time, I would like to point out that we would rather
4 see that pipe go on the downstream side of the Slims
5 crossing, rather than on the upstream side.

6 We are concerned of other
7 effects to the park environment, resulting from pipeline
8 construction in the general Sheep Mountain area, and along
9 the park corridor, but basically in the Sheep Mountain area,
10 if they're going to have any lengthy construction periods,
11 as present information seems to indicate, because these are
12 two very difficult crossings, Sheep Mountain itself and
13 the Slims River, that there may be a camp in the area, or
14 a lot of work in the area, a lot of people in the area.

15 We are as concerned about
16 the surveys, the studies, work by consultants, work by
17 pipeline people and work by other government agencies in
18 that area, as we are by the construction people themselves.
19 These people have the facilities, the equipment, and the
20 authority, perhaps, within their own organizations, to move
21 about in that general area, and affect the sheep on the
22 mountain and other wildlife resources in the area, whether
23 it's for the purpose of photographing, or whatever in their
24 leisure time, including such activities as hunting.

25 We are concerned that during
26 the construction period, relatives, family members and so

1 on with friends would come and also increase the visitation
2 into the park and the effect on park resources, in such
3 areas as easily accessible as Sheep Mountain as well.

4 We can anticipate perhaps as
5 great a pressure from these added numbers of people and
6 their effects as we have on the total participation at this
7 time, or at that time, without a major construction such as
8 the pipeline.

9 We are concerned about the
10 size of the project in those critical areas, and the length
11 in which those projects, such as crossing of the Slims and
12 in the Sheep Mountain complex itself. Duration, we think
13 is important, because of the very seasonal importance to
14 the sheep and the wildlife in that area.

15 If construction has to take
16 more than six months, then certainly the tail ends of that
17 period would conflict quite seriously with a biological
18 importance of that particular area. I don't want to spend
19 more time, I would rather answer questions.

20 Thank you.

21 MR. CHAIRMAN: Yes, I have a
22 couple of questions. One is that in the early days,
23 apparently there was a wagon trail around the mountain.
24 Are you aware of where that wagon trail was? Was it on
25 the current road, or on the 8 inch pipeline right-of-way?

26 MR. MASZYK: It was on neither.

1 Parts of it was on, I think, on the existing old pipeline,
2 and there is at least one area in which you can see where
3 that road went, and I think the point which I am referring
4 to is where it came down from the existing pipeline align-
5 ment to the old pipeline, down to the highway base in that
6 area, but it's not readily evident at this time, not for
7 at least an appreciable distance.

8 MR. CHAIRMAN: Fine, so it's
9 not a resource, historical resource from your point of
10 view?

11 MR. MASYK: We have no inform-
12 ation, or no detailed information to be able to determine
13 whether it is or it is not. It may in fact be.

14 MR. CHAIRMAN: Now, you men-
15 tioned crossing of the Slims upstream instead of downstream.
16 Would you elaborate on that, please?

17 MR. MASYK: Yes, upstream of
18 the Slims River, there is now a very significant loose
19 deposit building up in that delta, which has also got some
20 pretty unique plant communities. Any disturbance of that
21 is rather long lasting, and we have examples of that by
22 some of the careless use of the road from along the old
23 Alaska Highway where people decided to see what they could
24 do on that very inviting flat, sand deposit.

25 The tracks they left perhaps
26 8, 10 years ago, are very evident at this time, and I would

1 Imagine any other activity or disturbance in that area would
2 also be long lasting.

3 MR. CHAIRMAN: Yes, let me
4 correct that. You're suggesting the pipeline goes down-
5 stream of the bridge, rather than upstream, is that right?

6 MR. MASYK: That's right.

7 MR. CHAIRMAN: Yes.

8 MR. CHAMBERS: I was wondering,
9 Mr. Masyk, for us uneducated in your classificat-
10 ion system, if you would elaborate on Class 1. I think
11 you suggested that you put forward a recommendation that
12 Sheep Mountain be Class 1 recreational area, or regulation
13 area or something.

14 MR. MASYK: Within the National
15 Park system, there is a basically a five class system used,
16 starting with the Class 1 which identifies areas that are
17 fragile, either physically, biologically or otherwise, or
18 areas which are unique or extremely well representing a
19 specific kind of resource. Sheep Mountain is one of those.

20 The kind of controls that
21 usually go along with that kind of classification is to
22 restrict access, to not allow any development of any kind
23 within these areas, in other words, they are as close to
24 total preservation as we possibly can get.

25 The other extreme in this
26 classification system is let's say, a Class 5, which is a

1 townsite or a public use area, and then they continue in
2 between that.

3 MR. CHAIRMAN: Are there any
4 questions from the panel? For clarification, in responding,
5 Mr. Bouckhout, would you mind giving us the width of the
6 level working surface that is required around the mountain?

7 MR. BOUCKHOUT: I don't think
8 a specific width has ever been given. In a case like this,
9 it would be minimized for obvious reasons, and I would
10 expect that in this area, given a 48 inch pipe, that one
11 would require level working surface in the order of perhaps
12 50 feet.

13 MR. CHAIRMAN: Fine. Would
14 you like to comment on --

15 MR. BOUCKHOUT: Absolute
16 minimum.

17 MR. CHAIRMAN: Would you
18 like to comment on Mr. Masyk's statement?

19 MR. BOUCKHOUT: Nothing more
20 than to say Mr. Masyk and I have discussed this at length,
21 several times, and we are aware of the Park related concerns
22 which weigh very heavily in the ultimate decision in this
23 area, and through co-operation with Mr. Masyk's group as
24 well as others, we feel we can probably come to an amenable
25 settlement.

26 MR. CHAIRMAN: Yes, that

1 doesn't help the panel very much. We're identifying environ-
2 mental impacts.

3 Have you considered pulling
4 the pipe across the lake?

5 MR. BOUCKHOUT: As I think I
6 indicated in an earlier phase of this hearing, Dr. Hill, that
7 had been considered from the perspective of profiling the
8 bottom of the lake, to indicate whether that were feasible
9 or not.

10 It appears that it really is
11 not technically feasible to do so, on the basis of the
12 information gained.

13 MR. CHAIRMAN: Why is that?

14 MR. BOUCKHOUT: Perhaps I
15 should back up one step. When I say "technically feasible",
16 virtually anything would be technically feasible with
17 enough funds. When you consider this particular lake cross-
18 ing, one would have to move in probably a lay barge, which
19 is a fairly major operation, because we're dealing with
20 depths in the order of 180 to 200 feet.

21 The depths are immediate,
22 it's not a saucer shaped bottom. It's instead a very
23 steep drop-off, close to Sheep Mountain itself, and then a
24 gradual rise to the opposite shore. So that apparently
25 there would be considerable technical difficulties in con-
26 structing a crossing of that nature.

1 MR. CHAIRMAN: Yes, although
2 there are, on the lake, alluvial fans on each side, which
3 one would expect that you wouldn't get that steep drop-off
4 into the lake, farther away from Sheep Mountain?

5 MR. BOUCKHOUT: As I recall,
6 the depth soundings were done within a fairly short distance
7 of the island which is in the lake, and apparently those
8 depths were recorded very close to that island, so I don't
9 know how far the alluvial fans would extend into the lake
10 itself.

11 MR. CHAIRMAN: But from your
12 point of view, it would be, the problem would be bringing
13 in the lay barge to lay the pipe, rather than any other
14 problem?

15 MR. BOUCKHOUT: Particularly
16 that. I'm not aware of the technical engineering problems
17 that are associated with that kind of an operation.

18 MR. CHAIRMAN: Thank you.
19 Any questions from the panel?

20 Dr. Hughes?

21 DR. HUGHES: I have a ques-
22 tion that I have been wanting to ask and I'll put it in here
23 because I'm afraid we might get to the end of these hearings
24 without me finding the appropriate place.

25 You're probably aware of the
26 type of landscape analysis made by, for Department of Public

1 Works in their design of the Mackenzie Highway, that is,
2 it's an attempt to obtain some sort of quantification of
3 the visual aspects of the highway and its surroundings.

4 Now, I'm wondering if you have,
5 for any parts of your alignment, attempted to do something
6 similar for the appearance of your pipeline right-of-way as
7 it appears to a viewer from the highway?

8 It seems to me that this is
9 one possible approach to this general problem of the
10 aesthetics, and particularly what could be some real damage
11 to the wilderness aspect of the -- by putting in a pipeline.
12 Has that been done, has it been considered for any portion
13 of the line?

14 I bring it up now because it
15 seems like it could also be applicable to this particular
16 situation.

17 MR. BOUCKHOUT: Dr. Hughes,
18 that particular approach has not been used. I believe you're
19 referring to the Lytton approach, the generation of what's
20 called Lytton sheets, the characterization of visual
21 quality.

22 The rationale for doing it
23 for the Mackenzie Highway was primarily because the highway
24 would obviously convey people, and therefore, it was much
25 more of a consideration with respect to the highway itself.

26 Certainly, we are, and will

1 continue to consider the aesthetic implications of our
2 right-of-way, and in the Sheep Mountain area, this would be
3 a prime consideration. There are probably very, very few,
4 if any, other locations along the proposed pipeline right-
5 of-way which would have the inherent aesthetic implications
6 that are relative to the Sheep Mountain area.

7 Perhaps I could turn it over
8 to Mr. Jim Taylor, who is more versed in this area.

9 MR. TAYLOR: Mr. Chairman,
10 yes, I am familiar with the system used on the Mackenzie.
11 Again, as Mr. Bouckhout said, the process there was designed
12 for view from the road, in other words, the aesthetic
13 experience that you would achieve by moving let's say 30
14 to 60 miles an hour.

15 Now, our concern with the
16 pipeline, of course, is not the view from the right-of-way
17 in most cases, but the view of the pipeline from probably
18 the highway right-of-way in most cases.

19 So visual accessibility
20 as we called it, becomes important. So as we began to
21 analyze the right-of-way, we try to take into account the
22 visual accessibility from points where numerous viewers
23 might be available. This might be a highway, this might
24 be a camp site or a park, or a settlement.

25 Now, in the case of Sheep
26 Mountain, it becomes even more critical because we also

1 feel that the viewer context is important, and I have to
2 echo some of Mr. Masyk's concern in that this would, could
3 perhaps be at the entry or one of the entries under consider-
4 ation, to the National Park. So an extensive visual scar,
5 if that should happen, would be even more of a concern here.

6 So we haven't really considered
7 using a dynamic process, in terms of analyzing the view of
8 the pipeline from the pipeline, but we have tried to first
9 of all assess the visual features, and in the case of Sheep
10 Mountain, we have identified that as a landmark feature,
11 one that a traveller on the highway relates to, will see
12 from some distance, disfigurement on the surface on that
13 feature would probably be very, very evident, if it was not
14 well handled, and therefore, we have indicated that as an
15 area of concern and further study.

16 We haven't, however,
17 developed into a further phase where we would design a
18 methodology for approaching the evaluation of an actual
19 engineering solution.

20 As Mr. Bouckhout indicated,
21 it hasn't reached that point yet.

22 DR. HUGHES: What brought
23 the point up was that the panel, in travelling from Watson
24 Lake back to Whitehorse by car, had difficulty in follow-
25 ing -- we were trying to follow along the alignment sheet
26 and get some feel for the topography, and in many instances,

1 we couldn't determine, from just travelling the highway,
2 whether the pipeline would or would not be in view, and
3 we did identify some sections along the -- I would have to
4 refer now to a set of alignment sheets on which we wrote
5 our comments, but we did identify a number of localities,
6 at which we thought that probably with no danger to bio-
7 logical values, that there could be major improvement in
8 the aesthetic -- or maybe I'll put it the other way --
9 major improvement in the protection of aesthetic values.

10 It seems to me that for,
11 that there's some value in a region like the Yukon, where
12 the Tourist Bureau is selling a wilderness experience, to
13 look at this aspect.

14 MR. TAYLOR: In our initial
15 studies, which are part of the application, we did try to
16 appraise the area in general terms, in terms of identifying
17 visual features of high quality, as well as visual zones.

18 This gave us an overview,
19 and allowed us then to identify potential problem areas,
20 in other words, zones where the proposed line traverses
21 areas of high quality.

22 Now, we're aware of those and
23 now it's a matter of translating those to visual accessi-
24 bility again, if I can use that word, and I think what
25 you're suggesting is that perhaps the highway traveller
26 be given priority. We haven't got to the point now yet of

1 determining who should have priority, but most people do
2 move on the highway, and doing an analysis to determine
3 the relative visual impact of the proposed alignment from
4 various points on the highway.

5 This summer, we are conducting
6 a recreation capability study, but we will also be from the
7 ground, analyzing that visual problem, but it will take on a
8 different form, getting back to your original question.

9 DR. HUGHES: Oh, I wasn't
10 plugging for any particular methodology there. I was trying
11 to determine whether there was any systematic approach
12 being made to this particular subject.

13 MR. TAYLOR: The best way of
14 handling it, and the way we've done it before, is just
15 simply plotting due lines on topographic maps. There is a
16 system for establishing a viewer position, and then the
17 position of its project and its relative features, and
18 doing line of sights.

19 So that can be done, and we
20 would anticipate doing that in very critical areas.
21 Sheep Mountain, of course, is a very exposed situation, and
22 because of that reason, we are assuming that whatever is
23 done is going to be visible. The question is, how can we
24 best do it to minimize the impact?

25 DR. HUGHES: Thank you very
26 much.

1 MR. CHAIRMAN: I believe
2 Mr. Trevor and Mr. Wykes have questions.

3 MR. TREVOR: Just a couple
4 of quick questions for Mr. Bouckhout. I gather from your
5 previous remarks that no analysis of the depth of the lake
6 was taken beyond the island, you didn't go further down
7 lake in the soundings?

8 MR. BOUCKHOUT: I believe,
9 Mr. Trevor, three lines were run, but you're right, we did
10 not go farther down the lake.

11 MR. TREVOR: So you don't
12 really know whether that sharp drop-off applies farther
13 down the lake?

14 MR. BOUCKHOUT: No sir, I
15 don't. The rationale for the placement of the soundings
16 was that if we were to cross the lake farther northwestward,
17 that would then mean that we would have to place the line
18 on the opposite shore, and run the line for a distance on
19 the opposite shore, and that was the rationale for not
20 sounding in that area.

21 Our hopes were to see if there
22 were a feasible way of crossing the lake as close to the
23 southerly extremity as possible and still avoid the Sheep
24 Mountain area.

25 MR. TREVEOR: My second
26 question would be in terms of crossing the Slims River,

1 does crossing downstream of the causeway and the bridge
2 present any problems that you are aware of?

3 MR. BOUCKHOUT: I would sus-
4 pect that the implication of crossing downstream is that
5 the downstream area of the Slims is still in a relative
6 state of flux, in other words, it's in a grading area,
7 whereas the upstream portion is in a more stable state.

8 Whether that is a very signi-
9 ficant implication or not, I couldn't say.

10 MR. TREVOR: And my third
11 question, due to my background, I can't avoid asking, to
12 your knowledge, is a gas pipeline laid in a tunnel anywhere
13 in the world?

14 MR. BOUCKHOUT: Tentatively,
15 I'd say yes. As an adjunct note, Mr. Roberson just men-
16 tioned that Alyeska had originally proposed a tunnel on its
17 system, and subsequently rejected it.

18 MR. TREVOR: Do you know why
19 it might have been rejected?

20 MR. ROBERSON: Yes, sir, I
21 do. It had to do with an area of a potential State Park
22 very near the southern terminus of Alyeska's line. The
23 terrain, extremely rocky and extremely difficult, and a
24 tunnel was proposed to go straight through rather than
25 over, in this case, not around.

26 The end point was a cost

Mr. Roberson
Mr. Trevor
Mr. Wykes
Mr. Bouckhout

• 1506

1 factor of even though the terrain was extremely difficult,
2 the tunnel was conceived as more difficult and more time
3 consuming, both, and was abandoned for that reason.

4 MR. TREVOR: You don't know
5 the length of the tunnel that was proposed?

6 MR. ROBERSON: I believe some-
7 thing to the tune of 4,000 feet.

8 MR. TREVOR: Thank you.

9 MR. WYKES: The question I
10 was going to ask was already asked by Mr. Trevor in terms
11 of whether or not you had done more depth contours north-
12 west in Kluane Lake from the proposed crossing now, and in
13 your response, you mentioned that that would put you onto
14 the shore, which I guess is the southeast portion of Kluane
15 Lake, and you seemed to indicate that that would not be
16 desirable either, and I was wondering for what reasons,
17 what reasons you have identified that it might not be
18 desirable?

19 MR. BOUCKHOUT: It's my under-
20 standing, Mr. Wykes, that the southeast shore of Kluane
21 Lake is characterized by many active alluvial fans, and
22 that in consideration with the local topography, resulted
23 in an assessment by particularly our geotechnical consult-
24 ants that this would not be a favourable location for
25 installing a pipeline.

26 MR. WYKES: Is there a road

1 already in that area, to your knowledge?

2 MR. BOUCKHOUT: I couldn't say,
3 not to my knowledge.

4 MR. TREVOR: This would put
5 you in the area of the air strip, is that right?

6 MR. BOUCKHOUT: No, I was
7 thinking if one were to cross the lake farther north, as
8 you indicated, you would ultimately come to the area of
9 the air strip, but you would reach the shore farther north.

10 MR. CHAIRMAN: I have a
11 question for Mr. Masyk.

12 Your objective was well
13 stated, to protect the values of the National Park. Have
14 you any ideas how that may be done with an alternative?

15 MR. MASYSK: Well, one of
16 the things is to try and not create yet another scar in
17 that area, and there are already two significant ones; the
18 present highway and the old pipeline.

19 To yet put another one of
20 greater magnitude than perhaps one of the previous two,
21 would certainly not be helping the situation. What we
22 would like to do, or like to suggest, if at all possible,
23 to follow the highway corridor, either by widening the pre-
24 sent corridor or in some other way incorporating the pipe
25 for that particular distance there, so that there is not
26 yet another scar.

1 No appreciable, additional
2 disturbance of what is already disturbed.

3 The other, the concern about
4 the Slims River delta, is to move it downstream where I do
5 not believe that there is that significant a difference in
6 the stability, because we're talking of perhaps moving it a
7 hundred feet from one side rather than the other. But then
8 at the same time, preserving and not disturbing a very
9 important interpretive potential in that area, especially
10 if it's a grading on the downstream side, it may much
11 quicker be covered up, as in fact the old pipeline was in
12 that area, than putting it on the side of this more stable,
13 if in fact, it is stable there.

14 MR. CHAIRMAN: Thank you.

15 Okay, let's move down the
16 table. What are the other concerns about the Sheep Mountain
17 area? Yes?

18 DR. LINDSEY: Mr. Chairman,
19 I would just like to provide some information with respect
20 to this crossing. It may not be generally realized that
21 Kluane Lake drains through the Alsek River to the Pacific
22 Ocean until only about four centuries ago, and one bit of
23 evidence that that is so, is that there are deep estuaries
24 off the mouths of all the creeks, which must have been cut
25 down when the lake was about 40 feet lower than it is
26 now.

I might add that because of the rapidity of events, both in this hearing and in the total changing of circumstances surrounding the pipeline,

1 that our information is literally coming in daily, and in
2 looking at the submission that you received from us yester-
3 day, some of that information, for instance, the biological
4 data where we gave a rough indication of species that users
5 might find in the tables at the back, has already been over-
6 run by further information that Mr. McNally's group has
7 collected, and will be made available to you, I understand,
8 at the end of the hearing, is that right John?

9 MR. MCNALLY: Yes it is.

10 MR. MEYER: Right, so I would
11 ask you to keep that in mind in terms of using this data.
12 There may be more to come.

13 Okay, we feel that from a
14 user, a fishery user point of view, Kluane Lake is an
15 extremely important area. It's one of the areas where we
16 can identify all four of the classes of users that we
17 talked of yesterday; commercial fishery, primarily oriented
18 towards Dawson; a native Indian fishery; a resident sport
19 fishery; and a tourist fishery.

20 We've identified also that
21 with respect to the tourist fishery, there seems to be a
22 potential for conflict between the tourists and construction
23 activity in the summer season, and we have some concern,
24 preliminary concerns that we've identified there.

25 Finally, we note a construct-
26 ion camp at Mile 90, and my consultant informs me on the

1 basis of his discussions with Indian peoples, that there
2 is some risk of an intensive fishing pressure on subsisting
3 subsistence greyling fisheries in such places as Sweet
4 Johnson Lake and Creek.

5 Finally, I think I'll stop
6 there for the time being, Mr. Chairman.

7 MR. CHAIRMAN: Fine. Mr.
8 McNally has a comment.

9 MR. MCNALLY: Just a quick
10 one. I'll go against my word and come in, throw a comment
11 in. Just very quickly, we start ranging fairly far afield
12 with reference to relocation in this particular area, I
13 would have several comments to put in, which I believe are
14 pertinent.

15 If, for instance, we start
16 looking at realignments that start heading towards Kluane
17 and working up towards Christmas Creek, we would then be
18 impounding on an area that's been identified as lakeshore
19 Chum spawning area.

20 The full exploitation of
21 Christmas Creek itself has generally been identified as
22 potentially high, although it's not been formally documented
23 yet, and in addition to that, when we start ranging across
24 the lakefront and looking for different alternates to go
25 across the lake itself, then we do get into a question of
26 the utilization of the lakeshore itself.

1 For instance with reference
2 toojust Chum themselves, the distribution and spawning along
3 the shore, it's an area that's been identified as concern,
4 and of high potential, but we haven't really gone into it
5 as our comments have really been addressed to the alignment
6 explicitly.

7 So to put it into context,
8 the way the alignment has been discussed to date, staying
9 fairly close to the existing one or highway, I have backed
10 off from commenting, but if an alternate such as crossing
11 the lake and fairly extensive changes, ^{then} there really would
12 be some impact on fisheries.

13 MR. CHAIRMAN: Yes, possibly
14 a few people are confused with the line of questioning,
15 however, as a panel, we must ask the question, first of
16 all, whether existing alignment is acceptable environment-
17 ally, or could offer severe problems; and if it does, we
18 have to ask the question, in our opinion can they be
19 rectified through realignment or mitigation measures or
20 whatever, and a lot of the questions are obviously attend-
21 ant on finding out what the alternatives are, and what the
22 problems with the alternatives are.

23 Okay, going down the table,
24 I believe Dr. Krebs?

25 DR. KREBS: Mr. Chairman,
26 with your permission, I would like to change slightly the

1 tone of the discussion.

2 I'm here representing the
3 Yukon Conservation Society, but what I say should not be
4 held against them. First of all, I would like to point
5 out that I am not a temporary employee of either Foothills
6 or the government, I'm on "Ivory Tower" leave from the
7 university.

8 I'm a professional ecologist,
9 my interest in the questions being discussed here this week
10 are that I have spent the last five years studying mammal
11 populations at the Arctic Institute Camp on the south end
12 of Kluane Lake.

13 I pass myself off in the
14 university world as an expert on population dynamics.
15 I would like to make a few general comments about the pro-
16 cedures which have been going on here, and the environmental
17 statement which Foothills has prepared, and use this as a
18 lead into a discussion of the route which has been selected,
19 particularly south now of Sheep Mountain and the Slims,
20 through the Kluane Game Sanctuary.

21 First of all, let me begin
22 with the assumption that what we want to do here and what
23 we are trying to do, is to minimize the environmental
24 impact of a pipeline, should the decision be made to actually
25 build one. I will carry on on the assumption that the
26 decision to build one is being made, and what we want to do

1 then is to minimize the environmental impact.

2 Now, I think we have to recog-
3 nize right away, and this is fundamental, I think, to all
4 the problems that are being discussed here, that one cannot
5 predict with the present state of ecological information
6 and ecological science, one cannot predict any major impact
7 of any project of this size.

8 This flies in the face of the
9 entire discussion which has been going on here in the last
10 two days, in which people have tried valiantly to identify
11 problems. I think we have to try to identify these problems,
12 and it's very important to do this, and I commend the
13 efforts which are put forward in this regard, but we have
14 to realize, and I think in an historical perspective, that
15 we are fighting a very strong, uphill battle.

16 We have essentially, an 18th
17 Century science which we have to use as the basis of
18 these predictions, and that is the science of ecology,
19 which is very young, and at the present time, we can only
20 look at what are considered to be, what was called earlier,
21 "perceived impacts". We can look around and say this
22 looks like a problem area, and try to mitigate that
23 problem.

24 But if we look at this in an
25 historical perspective, we can see that there's not been a
26 single case in which environmental impact assessments have

1 predicted the resulting problems on a large scale project,
2 such as the one which Foothills proposes here.

3 Now, we cannot predict these
4 major environmental impacts, and this very large document,
5 which Foothills has proposed, has produced, is not, in my
6 opinion, an environmental impact statement.

7 I think it confuses, and let
8 me try to illustrate, I think this is ^avery important point.
9 I want to illustrate why this very thick document cannot be
10 considered to provide any information which is relevant to
11 the cause which this panel is assembled for.

12 In order to predict, our job
13 then is to predict the influence of a pipeline, say, on
14 eco-systems. This pipeline will traverse a variety of
15 eco-systems, I will talk primarily about terrestrial eco-
16 systems, which I am more familiar with.

17 Now, terrestrial eco-system,
18 any eco-system is like a very large bank, a very large
19 Bank of Montreal Branch, and in this bank, there are a
20 whole series of accounts; the species are all accounts in
21 the bank.

22 Now, what we can do if we
23 want to understand how this bank operates, is to identify,
24 first of all, the size of all those accounts in the bank,
25 and that's in part, what has been tried to do in this very
26 thick document. It's in part, but as has been pointed out

1 in the last two days, people have been unable to do for a
2 variety of species, which at least some of us think are
3 quite important. So if you like to sum up in this very
4 simple way, our understanding of the problem we're faced
5 with, we have some knowledge of this bank, we have some
6 knowledge of the size of some of the bank accounts, but
7 there are a lot of them we don't know anything about how
8 big they are.

9 Now, clearly, if you manage
10 your own finances, you know that knowing the size of the
11 bank account is of no use whatsoever, to understanding
12 what's going on in the bank. What you have to know about,
13 and this is what's fundamentally overlooked in this proposal,
14 is what goes into these accounts, and what comes out the
15 other end, and we know that for almost none of the species
16 which are being discussed here, and that's the fundamental
17 reason why an environmental impact assessment cannot be
18 made, that were recognized as the possible major impacts of this
19 proposal that Foothills is suggesting.

20 Okay, what do we do about
21 this? We cannot stop the world in an academic tradition,
22 and get off. We've got to do something. I would suggest,
23 and I've suggested in the brief which I have presented to
24 the panel, that given this state of ecological ignorance,
25 and let me emphasize the extent of this ecological ignorance,
26 with another simple analogy.

But in summary, let me say that the alignment, I think the whole procedure here has been completely backward. What is proposed to us is an alignment which, as was said earlier, looks to be environmentally about the worst thing you could produce. What should be done is that we should essentially establish the

1 principle that this pipeline should be built along the
2 highway, and I mean right along the highway, and it should
3 deviate from the highway only when we have convincing evi-
4 dence that the deviations are less destructive than they
5 would be otherwise.

6 So I think the condition of
7 the construction of this line should be to stay along the
8 highway and convince us why it should go anywhere else, and
9 this is one way in which we can, I think, minimize some of
10 the problems which are bound to arise, given the state of
11 ecological ignorance.

12 Okay, with respect to the
13 specific area under discussion, the proposed pipeline route,
14 as it leaves the Slims River, it crosses a part of Kluane
15 National Park which, as I indicated in my brief, and Mr.
16 Masyk has also supported and the Game Branch, the pipeline
17 should not be allowed to cross Kluane National Park.

18 It then enters the Kluane
19 Game Sanctuary, one of the few game sanctuaries in the
20 Yukon, and traverses a route which gets it very far from
21 the highway, which gets it off all the existing rights-of-
22 way which already exist through there, and I can see no
23 excuse at all for this kind of habitat destruction being
24 allowed, so I would also plead, as a final note, that this
25 route should be re-examined in the Kluane Game Sanctuary
26 area, and moved on the other side of the highway.

1 Thank you.

2 MR. CHAIRMAN: Do you have
3 any comment, Mr. Bouckhout?

4 Just a very brief comment,
5 that many of the types of issues Dr. Krebs has just men-
6 tioned have already been discussed here. The implications
7 of routing location, some feeling that it should be very
8 close to the highway. There are obvious implications with
9 that, others feeling it should be farther away.

10 One constraint which Dr.
11 Krebs did not mention, was one of economics. We view the
12 line, economics is obviously a significant consideration.
13 We are here treating environmental considerations, that is
14 the prime topic which the panel is dealing with and that's
15 the prime topic which I deal with.

16 In our view, it's necessary
17 to assess the line from an overall environmental perspect-
18 ive. If the route is thereby shown to be locationally
19 unacceptable, then another location must be suggested, and
20 also evaluated.

21 The other measures, there
22 are other measures which are also possible to be instituted,
23 besides relocation, we've discussed those as well, so that
24 in just general summary, one can say that very easily, that
25 the alignments should follow the highway, but one, as Dr.
26 Krebs has indicated, must also take into account then, other

1 factors which may be found in such a routing.

2 MR. CHAIRMAN: Possibly you
3 could enlighten me, Mr. Bouckhout, on this lay barge quest-
4 ion. What are the criteria which demand a lay barge in a
5 body of water?

6 MR. BOUCKHOUT: I'm sorry,
7 what are the criteria?

8 MR. CHAIRMAN: Yes, is it
9 depth of water, wave height?

10 MR. BOUCKHOUT: It's primarily
11 depth of water, as well as widths of crossing.

12 In other words, depths of the
13 water would not be the only constraint, were it possible
14 to work from the shores. When one can no longer work from
15 the shores, then one must consider the methodologies of
16 laying a pipe from a floating platform.

17 MR. CHAIRMAN: Why not string
18 it across, in this case, string it across the lake, float
19 it and sink it?

20 MR. BOUCKHOUT: Primarily
21 because of the bends.

22 MR. CHAIRMAN: Well, assuming
23 one can find an exit and entrance point width of flat
24 slope?

25 MR. BOUCKHOUT: Sorry, Dr.
26 Hill, now you are definitely taking me out of my depth, I

1 couldn't tell you.

2 MR. CHAIRMAN: Thank you.

3 Mr. Trevor?

4 MR. TREVOR: I just have a
5 quick question for Dr. Krebs, if I may, in relation to the
6 brief he has presented to us, on the second page. He's
7 talking about the existing right-of-way for the defunct
8 Haines-Fairbanks pipeline, and he makes the statement that
9 the habitat destruction accompanying the construction of
10 this pipeline must not be allowed to repeat itself.

11 So that the panel can get some
12 perspective on this, could you perhaps expand on that state-
13 ment a little, and quantify the amount of destruction?

14 DR. KREBS: The pipeline
15 which goes from Haines to Fairbanks, crosses through a
16 large area of the Kluane Game Sanctuary, and parts of
17 Kluane National Park.

18 All one has to do is walk the
19 right-of-way of the pipeline, to see the amount of erosion,
20 and the destruction of the various plants, and the accompany-
21 ing animal fauna, which I think is quite evident along this
22 right-of-way,. You can see it also from the air quite
23 clearly, it's a scar, I think, on the landscape. It's
24 the kind of a scar which I think if one has to produce on
25 a landscape, you should concentrate, and better have two
26 scars in one place, than two in two different places, and

1 you should keep these, I think, out of a game sanctuary.

2 As far as I'm able to under-
3 stand, there was no -- of course, this pipeline was built
4 some 20 years ago now, as I remember it, and there was no
5 environmental impacts done at that time. It was pushed
6 through.

7 MR. TREVOR: So you were talk-
8 ing more about the principle of the thing than the aerial
9 extent?

10 DR. KREBS: Yes, certainly,
11 certainly. If you simply tally up the area of these
12 things, you can't even begin to assess the damage these
13 things do by counting up the area, that's a fundamental
14 error; if you count up the area, it looks trivial.

15 MR. TREVOR: Thank you.

16 MR. CHAIRMAN: All right,
17 anyone else wish to speak on the Sheep Mountain-Slims
18 River, the problem that the pipeline company has in getting
19 the pipeline basically across Kluane Lake?

20 Mr. Masyk?

21 MR. MASYSK: One more comment
22 to what I have already said is that in addition to the
23 construction phase and concerns that are related directly
24 and indirectly to the Sheep Mountain and general area
25 along the Kluane National Park, we are quite concerned as
26 well in that sometimes people think that to make something

1 aesthetically pleasing, that you level it off very nicely
2 and seed it back to some grass or something else, and trim
3 up the sides, and disturb it and that is sufficient.

4 I think that if the right-of-
5 way is going to be rehabilitated, some concern should be
6 given as to how it's going to be done. If it is merely
7 going to be seeded for some vegetation that will grow
8 rapidly and take root, that we may have a serious impact
9 on the wildlife that may be attracted to that kind of
10 grassy area.

11 I think that by and large,
12 if you examine the sheets, that the alignment is as much
13 in a straight line as possible. That is probably another
14 concern that people should, the pipeline people should
15 take, and that although economically, it may be the best
16 way to go, and construction the best way to go, but it
17 certainly might invite illegal hunting along grassed areas
18 that provide clear lines of sight for long distances
19 along that access route.

20 At the same time, I think
21 it might, by attracting park animals to that area, or
22 animals from the sanctuary, it may also increase road
23 kills due to traffic, especially if that highway is up-
24 graded and the speed limit is increased, including volume
25 of traffic.

26 MR. CHAIRMAN: Before I, I

1 realize you'll have something to say on the issue, Mr.
2 Klassen.

3 You mentioned, Mr. Bouckhout,
4 a meeting between Parks Canada, the Game Branch, D.P.W.
5 and yourself. Did that lead to an agreement on going around
6 Sheep Mountain?

7 MR. BOUCKHOUT: It led to
8 no definitive agreement, Dr. Hill, since it was impossible
9 to reach an agreement at that stage.

10 The decision really rests
11 partially on the further evaluation of feasibility with
12 respect to the Shakwak project, and when I say that, I
13 mean if that project is to go ahead, what kind of work is
14 going to be required by the Shakwak project in that
15 particular area?

16 We had earlier spoken of the
17 possibility of constructing and installing the pipeline
18 in the right-of-way of the highway. This is still a con-
19 sideration, however, it's not possible, at this stage, to
20 determine whether, in fact, the ultimate right-of-way of
21 the highway will permit us to install a pipeline within its
22 confines.

23 This is one of the issues
24 that we hope to continue co-operation with the various
25 interest groups on, and when more information becomes
26 available regarding the design and logistics and scheduling

1 of that particular project, then perhaps we'll be in a
2 position to make a final statement on routing in the area.

3 MR. CHAIRMAN: Thank you.

4 One other note; I noticed driving the line, and approaching
5 the Slims River, that the pipeline right-of-way seems to go
6 right over a fairly pretty little knoll. I realize this
7 was laid out by engineers, rather than by environmentalists,
8 as you have pointed out, but it shows quite a deal of
9 insensitivity, it would appear.

10 Have you got a comment on
11 that?

12 MR. BOUCKHOUT: Yes sir, we
13 will not go over the knoll.

14 MR. CHAIRMAN: There is a
15 few knolls.

16 Mr. Klassen?

17 MR. KLASSEN: Thank you,
18 Mr. Chairman.

19 During the hearings in June,
20 Mr. Olson from Haines Junction, expressed certain opinions
21 concerning Sheep Mountain and the sheep population on that
22 mountain, and his comments generated some questions from
23 the panel, and the panel staff, and I said at that time
24 that Dr. Hoefs who did his Ph.D. research on Sheep
25 Mountain, and the sheep population there would be here at
26 this time to answer questions, and he is, so I wonder if

1 the panel would like to address questions to Dr. Hoefs
2 concerning the sheep .

3 If I recall correctly from
4 reading the transcript, I wasn't present when Mr. Olson
5 made his remarks, but he indicated that the mountain was
6 presently overpopulated, and perhaps you would like to re-
7 address those questions?

8 MR. CHAIRMAN: Yes, as I
9 recall, there were quite a few questions about sensitivity
10 of the sheep to noise and the overgrazing of the range and
11 several issues arose.

12 Possibly if Mr. Hoefs -- is
13 it doctor, Dr. Hoefs has knowledge of the questions, he
14 would like to address them and then have the panel fill in
15 the remainder that they're concerned about. Would that be
16 appropriate?

17 DR. HOEFS: Thank you, Mr.
18 Chairman.

19 I wasn't here when Olson
20 gave his presentation, but I just want to say that the
21 Game Branch submission here includes a fairly detailed
22 write-up on Sheep Mountain, between pages 34 and 39, and
23 we support the Parks Service, in that we propose that the
24 line is taken off the mountain and put beside the highway.

25 We feel that if the present
26 route is chosen, it will result in considerable winter

1 range destruction, more so than just the right-of-way
2 because of the nature of the terrain, the steepness of
3 the mountain and the substrate, it will result in destruct-
4 ion above and below the right-of-way also.

5 Since the mountain is filled
6 at capacity levels, it will definitely result in a decline
7 of the sheep population.

8 Also the present proposed
9 road will be above the lake, which is the only mineral lake
10 we know, and it will be very difficult avoiding to destruct
11 that.

12 Another point which so far
13 I know has not been brought up by the botanists here, the
14 mountain also has at least three plant species, and Dr.
15 Lindsey talked about rare and endangered species. If that
16 connotation applies to any plant in the Yukon, it would
17 apply there.

18 There's two ^{plant} species, these
19 are all grassland plant species which are only found in
20 that particular locality in the Yukon, and one more which
21 is only found there in the only place in North America.
22 It's found in Asia, but nowhere else in North America,
23 so that's a further reason for taking the line off the
24 mountain.

25 MR. CHAIRMAN: I think there
26 was a question about where the lake was. It's below the

1 alignment as it now is, is it?

2 DR. HOEFS: Yes, it's above
3 the cabin, but below the pole line which is now the pro-
4 posed pipeline route.

5 MR. CHAIRMAN: Yes, I think
6 I know where it is.

7 There was also a question of
8 game being, the sheep being scared away and not coming
9 back. As I recall the discussion, it followed the line
10 that if the sheep are in fact scared away, they may never
11 return.

12 Is this a concern in this
13 particular case?

14 DR. HOEFS: There was very
15 little work done on disturbance by machinery, by helicopter
16 on sheep, and the ones that have been mentioned in our
17 paper, and all of them they were just done for a
18 very short time period, nobody went back the year after.
19 And in this paper it's mentioned that they use, for instance
20 a compressor station, or the imitation of a compressor
21 station, and that resulted in the moving the
22 sheep by as far as a mile away, but they never found out
23 when they did come back. The experiment wasn't long
24 enough.

25 MR. CHAIRMAN: Thank you.

26 Mr. Wykes?

1 MR. WYKES: I might have
2 missed it, Dr. Hoefs, but I was just wondering if you would
3 comment on the comments that Mr. Olson made at our June
4 hearings on the overgrazing on Sheep Mountain. What are
5 your thoughts there?

6 DR. HOEFS: There is no over-
7 grazing. As I mentioned, the mountain is filled at capacity
8 level at present, it's about 10 per cent below, and we know
9 from range studies, which included exclosures to find out
10 how much sheep eat and what they eat, that the mountain
11 can carry about 200 adult sheep in late winter, and from
12 historical research, we know that that is the population
13 size that built up whenever it was run down by people.

14 That happened twice in the
15 history, once during the gold rush days and then again when
16 the Alaska Highway was built, and both times the population
17 was run down to 40 or 50. It built up again as fast as
18 sheep can do it, in another 10 years or so, and they built
19 up to about 200, and that's as far as they go.

20 That carrying capacity is
21 very sensitive, as is proven by whenever you get a summer
22 with a lot of rainfall, and more frost produced, that
23 resulted in more lambs being born next spring, so it's a
24 very sensitive balance, but it's not overgrazed, it just
25 always looks that way.
26

Mr. Wykes
Mr. Bouckhout
Mr. Trevor
Dr. Hoefs

1894
1530

1 MR. WYKES: Thank you. Mr.
2 Bouckhout, one of the recommendations in the Game Branch
3 report on page 39 is that no work around Sheep Mountain
4 should take place during the period September 1st to June
5 15th following. How does that fit in with your proposed
6 schedules right now?

7 MR. BOUCKHOUT: In general
8 terms, Mr. Wykes, those are the dates we've been talking
9 about. I don't know if they're precisely the same within,
10 but they're certainly within a couple of weeks of the kinds
11 of dates we have been talking about.

12 MR. TREVOR: So Dr. Hoefs,
13 as I read the recommendations then, the principal concern
14 relates to the loss of supportive area for the Dall sheep,
15 in the sense that it would be disturbed and would not come
16 back for some considerable time, so that they would be,
17 you could very nearly say from the area of disturbance, just
18 how many sheep would be lost, in terms of the present size
19 of the herd?

20 In other words, there would
21 be a reduction from 200 to 175, or something of this nature.
22 Is this what you're really saying? Just forgetting about
23 noise --

24 DR. HOEFS: Oh no, we made
25 several recommendations; one was that the highway be
26 taken off the mountain to avoid the destruction of winter

1 range and of the mineral lake.

2 MR. TREVOR: Yes, that's
3 what I mean.

4 DR. HOEFS: The second is
5 not to construct in the area at all, when they are in the
6 area, which is from mid-September to 1st of June next
7 year, to avoid disturbance by noise and smell and people.

8 MR. TREVOR: Yes, okay, so
9 that the point is that the balance is so delicate that any
10 disturbance is going to upset that?

11 DR. HOEFS: Yes.

12 MR. CHAIRMAN: Dr. Hughes?

13 DR. HUGHES: Dr. Krebs, you
14 described the approach of building the pipeline immediately
15 adjacent to the Alaska Highway as a conservative approach.

16 We have had the opinion put
17 forward that it's possible that a right-of-way of certain
18 width can prove to be a barrier to movement of animals, I
19 think for certain furbearers, the figure of as little as
20 30 feet was used. I'm forgetting the details here now,
21 but it does seem to me that for that kind of problem, that
22 you may be introducing another problem, that if you have a
23 highway right-of-way of a hundred feet, and a pipeline
24 right-of-way of 120 feet, you add that up and get 220 feet
25 that we -- may be affecting additional species.

26 I think of it as a possible

1 problem where you have the two running, let us say between
2 winter moose range on the floodplain, and the uplands where
3 the moose move to in the summertime; are we approaching a
4 figure there that even large mammals might hesitate to
5 cross?

6 DR. KREBS: I think if the
7 highway right-of-way has to be mutually exclusive of the
8 pipeline right-of-way, and you have to add them altogether,
9 and then when you put a hydro right-of-way, that's got to
10 be also its own separate one, you may eventually reach a
11 limit where nothing is going to cross it, and you have
12 essentially islands on two sides of this corridor.

13 I would suspect the width of
14 that transportation corridor would have to be enormous to
15 stop the exchange of animals across it. But in brief, I
16 think the answer to your question is, that work has not been
17 done. It's a straightforward experimental problem that
18 could be done, and nobody's done it, and that, I think,
19 may I put in another plug for the Game Branch here, is a
20 further reason why a couple of years, at the minimum,
21 additional work has to be done, just to get at simple
22 questions like that.

23 DR. HUGHES: But you would
24 agree that that problem is worth addressing?

25 DR. KREBS: I think it's a
26 potential problem. I cannot imagine a right-of-way of

1 a couple of hundred feet of width being a barrier to anything
2 very significant.

3 DR. HUGHES: So perhaps it's
4 not a consideration at all, then?

5 DR. KREBS: Perhaps, yes, but
6 let me underline the "perhaps".

7 MR. CHAIRMAN: Several
8 questions are coming up here, I want to adjourn at 5:00
9 and reconvene. Is there anyone here who won't reconvene
10 with us at 7:00 o'clock?

11 Okay then, we will take a
12 couple of questions. Oh, Mr. Masyk?

13 MR. MASYK: If it at all
14 possible, I would not like to come back here, if it's not
15 absolutely necessary.

16 I have only one other point
17 of clarification I would like answered before I go, and
18 I'm pretty well satisfied with the --

19 MR. CHAIRMAN: You would
20 like a clarification, yes, please proceed then.

21 MR. MASYK: Okay, the point
22 that I would like answered is what kind of monitoring or
23 surveillance or maintenance of the pipeline right-of-way
24 is anticipated, in terms of vehicle access, helicopter work
25 or whatever?

26 MR. CHAIRMAN: You should

1 have been here this afternoon. However, maybe you would
2 like to briefly address that, Mr. Bouckhout?

3 MR. BOUCKHOUT: The kind of
4 maintenance and surveillance to be required immediately
5 after installation of the pipe itself; surveillance will
6 be relatively frequent, and this will include ground sur-
7 veillance, as well as aerial surveillance.

8 The rationale for this is to
9 locate immediately, any problems and problem areas, which
10 occur, so that they can be mitigated immediately before the
11 problems become aggravated.

12 The kinds of things I'm
13 thinking of here in particular, are drainage control pro-
14 blems, slope stability, et cetera.

15 Once the pipe has been in
16 operation for a period of time, or after having been
17 installed, and these immediate events, if they do occur,
18 have been corrected. The long term normal operational
19 procedure of pipeline surveillance involves the utilization
20 of fixed wing aircraft, and normally overflights of the
21 entire right-of-way for the entire pipeline system on the
22 order of once a month.

23 There would be occasional
24 ground investigation, possibly by personnel on foot, or
25 utilizing small all terrain vehicles.

26 MR. MASYK: Am I correct in

1 assuming then that the pipeline right-of-way would have to
2 be free of vegetation, and therefore some type of -- are
3 you suggesting, or am I right in assuming that you would
4 either be using herbicides or hand clearing, or something
5 of that nature?

6 MR. BOUCKHOUT: To answer
7 your first question, the pipeline right-of-way need not be
8 cleared of all vegetation. Ground level vegetation is
9 encouraged. Growth of shrubs is also not, in most cases,
10 prohibited.

11 Shrubs up to 10, 15 and 20
12 feet are found on current right-of-ways. What is prohibited
13 is the growth of large trees, which would then create a
14 difficulty if rapid access along the right-of-way to any
15 particular point were necessary.

16 And in that respect then,
17 the right-of-way is maintained essentially in a successional
18 stage, rather than in a pioneer stage.

19 MR. MASYK: How is that done?

20 MR. BOUCKHOUT: It can be
21 done by two methods; it can be done by a mechanical control,
22 or it can be done by the application of herbicides. Both
23 have been used; herbicides have been used in the Yukon
24 on the Haines-Fairbanks line.

25 It's my preference, and our
26 current position, that mechanical control will be the basic

1 one, although over the entire life of the pipeline, I would
2 not rule out the possibility of utilization of herbicides
3 at any time.

4 However, if they were ever to
5 be used, and in general, utilization of herbicides as a
6 control measure, the application would be in the order of
7 once every several years, in the order of once perhaps every
8 5 years. If herbicides were to be used, obviously a permit
9 -- perhaps I'm going to have to throw this back to Mr.
10 Wykes, the permit would be required for the use or author-
11 ities would certainly be consulted in that regard.

12 MR. CHAIRMAN: Well now, I
13 would rather break, but before I break, I'll ask if anyone
14 has questions of clarification for Mr. Masyk?

15 Mr. Wykes does.

16 MR. WYKES: Mr. Masyk, since
17 you were not here this morning, neither was Dr. Hoefs when
18 the discussion on aerial surveillance in terms of wildlife
19 disturbance was discussed, I would just like to get any
20 comments you might have on the proposal for a monthly air-
21 craft surveillance at 500 feet, in the area of Sheep Mount-
22 ain, and what your thoughts are on that type of a program?

23 MR. MASYSK: Well, I would say
24 between the beginning of September to the beginning of June
25 the following year, that it could be very critical, and
26 that if that surveillance is necessary, it would have to be

1 done very sensitively, and perhaps might in that relatively
2 short area, best be done in some other manner.

3 DR. HOEFS: If the pipeline
4 were taken off the highway -- that portion could be surveyed
5 from the car, couldn't it, you wouldn't have to fly it?

6
7 MR. CHAIRMAN: Yes. Any
8 other questions for Mr. Masyk?

9 Okay, we'll reconvene then
10 at 7:00 o'clock and continue the discussion.

11
12 (PROCEEDINGS ADJOURNED)
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1
2 (PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

3
4 MR. CHAIRMAN: Okay, we will
5 come to order.

6 Mr. Hernandez, do you have
7 any comments on Sheep Mountain?

8 MR. HERNANDEZ: Well, I don't
9 have any specific comments on Sheep Mountain, but I would
10 like to make a few general comments.

11 Listening to the discussions
12 this afternoon, on specific problem areas, such as the
13 Mount Mitchi-Squanga Lake and the Sheep Mountain-Slims
14 River, we've heard concerns about unique fish species and
15 fisheries concerns, raptor concerns, mammal species concerns
16 and mammal winter range concerns, sheep mineral licks,
17 sheeps' susceptibility to disturbance, unique plant species
18 and sensitive plant communities at both of these sites
19 virtually.

20 We have heard recommendations
21 for rerouting the pipeline one way or the other, depending
22 on each specific concern, and the difficulty I have is that
23 some of these recommendations conflict, and there seems to
24 be little co-ordination to evaluate the economic and
25 engineering implications of the recommendations, the
26 changes along with the environmental implications to other

1 environmental components that are being recommended to solve
2 one problem or the other.

3 I don't have a solution for
4 these specific problems addressed, but it seems to me to
5 point out that once again, there needs to be co-ordination
6 overall, not just on the applicant's part, but on the need
7 for a single regulatory agency to evaluate the magnitude
8 and the severity of conflicts, all the conflicts that derive
9 at a specific site, and the mechanism for making the neces-
10 sary trade-offs, which everyone implies by the use of the
11 phrase "minimizing impact", and I would like to add that
12 this applies, not just to the environmental concerns you've
13 been discussing today, but we have to consider the social
14 impacts that are associated with a specific site, such as
15 the Sheep Mountain, you've got tourism and recreation, you've
16 got to try and resolve all the conflicts, and I think somehow
17 a mechanism has to be arrived at for achieving trade-offs,
18 and again, I urge the establishment of a single regulatory
19 agency to incorporate all this instead of fragmenting the
20 discussions.

21 MR. CHAIRMAN: Right. All we
22 can hope to do in this exercise is establish that there are
23 major concerns in some areas, try to get enough information
24 for the panel to come to some conclusions on the severity
25 of those impacts, and also try to come to conclusions on
26 the availability of measures to avoid them, one way or

1 another.

2 The next phase, of course, is
3 the completion of the assessment phase, followed by that
4 will be the design phase, when all of these will come
5 together. I don't think we can hope in this forum, to
6 complete any design.

7 MR. HERNANDEZ: No, I didn't
8 intend that this forum would arrive at the definitive
9 trade-offs, and I just mentioned this to point out that I
10 think one of the recommendations of this discussion should
11 be the need for arriving at mechanisms for making decisions
12 and trade-offs.

13 MR. CHAIRMAN: Thank you.
14 Okay, any comment, Mr. Bouckhout?

15 MR. BOUCKHOUT: No sir, not
16 at this time.

17 MR. CHAIRMAN: Any questions
18 from panel staff on the Sheep Mountain issue? No?

19 Any comment from the floor,
20 questions from the floor? Any further questions from the
21 panel?

22 MR. CHAMBERS: I would like
23 to direct this one to Mr. Bouckhout. The Slims River,
24 what is the estimation of time that it would take to
25 wherever the pipe goes across the Slims River, to lay the
26 pipe across the Slims River, the activity time of construct-
ion; and do you see it as being any disturbance or requiring

1 the same recognition of a disturbance to sheep that you
2 need a construction window for that phase of the construct-
3 ion as well?

4 MR. BOUCKHOUT: I don't have
5 a precise handle on how much time it would take for the
6 Slims River crossing. I'm not sure anyone does, but I
7 would suspect that a crossing of that magnitude, in that
8 kind of material, would take probably in the order of three
9 months.

10 In terms of timing, the
11 delta is obviously adjacent to Sheep Mountain. The activity
12 will be considerable. Current plans are to negotiate the
13 crossing of the delta in the summertime.

14 I think timing is an implicat-
15 ion. There was some indication that the area, particularly
16 the southern end of Kluane Lake is also used by staging
17 waterfowl at certain times. It's going to be a situation
18 of trade-off to a degree.

19 I suspect with respect to the
20 sheep population itself being in an area so close that
21 there could be some effect there, and therefore, the ration-
22 ale for summer timing of the crossing of the mountain
23 itself, would probably apply as well to the Slims Delta,
24 at least the portion of it nearest the mountain.

25 MR. CHAIRMAN: Okay, would
26 any of the advisors like to make a comment? Okay, we'll

1 close off discussion on that then.

2 I'd like to make one announce-
3 ment before we go on to the next subject. That is I read
4 in the newspaper some couple of days ago, that our report
5 was going to be secret, someone was quoted as saying this.
6 There was never any intention, to my knowledge, of keeping
7 our report secret.

8 What I said when I was asked
9 was that the report, our report, is to our Minister, and
10 the release of the report, and the timing of the release
11 is his decision. He's made the decision that it will be
12 released, which is really no surprise to me, so that he's
13 stated this to me, so that I wanted to correct that
14 impression that it would be a secret report.

15 Okay now, you wanted to say
16 something, Mr. Hutton?

17 MR. HUTTON: Yes, Mr.
18 Chairman, if I could ask one question of Mr. Bouckhout.

19 We've had a recommendation to
20 the Territorial Historic Sites and Monuments Board concern-
21 ing the meeting of the Alaska Highway, the construction of
22 the Alaska Highway at I believe it was called Soldier's
23 Summit, and it's my understanding that this location is on
24 the south side of Sheep Mountain.

25 This does have some potential
26 as a historic site, were you aware of this site, and in

1 fact, have you recommended any measures to protect it?

2 MR. BOUCKHOUT: Is that that
3 knoll at the eastern extremity of the Slims River crossing?

4 MR. HUTTON: Yes. I can't
5 give you just the exact location, but it is on that knoll
6 in there.

7 MR. BOUCKHOUT: I am not
8 personally aware of it, but I am aware that our alignment
9 as shown in the photo mosaic sheets, crosses a knoll and
10 we definitely would not intend to cross the knoll itself.

11 If we had further information
12 on the location of the site, the implication of the site,
13 we could react accordingly by route refinement in that
14 particular area.

15 Could you provide us with
16 such information?

17 MR. HUTTON: Yes.

18 MR. CHAIRMAN: Fine. Could
19 we move now to Duke Meadows? Excuse me, I seem to have a
20 cough tonight.

21 It was represented to us that
22 Duke Meadows was a unique landscape that should have some
23 special consideration, and Mr. Bouckhout, do you have any
24 comment on the claim?

25 MR. BOUCKHOUT: Yes, sir, I
26 can make just one very brief comment. If you were to look

1 at the photo mosaic alignment sheets which represent the
2 crossing of Duke Meadows, and I won't give you the number,
3 unless the number is of use to you -- the last two numbers
4 on the sheet are Sheet 09.

5 MR. CHAIRMAN: Yes, I have
6 Duke Meadows.

7 MR. BOUCKHOUT: In that res-
8 pect then, the crossing of Duke Meadows is in the vicinity
9 of an old crossing of another right-of-way. The crossing
10 is additionally located at the -- at or near the southeast,
11 southwest extremity of the Meadows' complex, and to my
12 knowledge, the selection of the crossing was done in relation-
13 ship to both the crossing of the Duke River, and the
14 approaches to this general vicinity, and the terrain con-
15 ditions on those approaches.

16 We do cross the Meadows
17 complex, affecting a very small portion of it, as I say at
18 the southwestern end. The construction in the meadow
19 area should not be particularly disruptive, although on
20 the immediate right-of-way, and obviously on the ditch
21 line, there will be some disruption, and the facility is
22 there that the right-of-way could be revegetated with native
23 species that occur on the meadows anyhow, if that were to
24 be desirable, and I ^{would} suspect it would be.

25 I think this perhaps would
26 be one of the kinds of areas that Dr. Vaartnou discussed

1 yesterday, or the day before, with respect to special treat-
2 ment in certain select areas that might warrant such treat-
3 ment.

4 MR. CHAIRMAN: Thank you.

5 Any questions from panel staff? I mean from the panel?

6 Dr. Hughes?

7 DR. HUGHES: Do you know for
8 a fact that Dr. Vaartnou studied the vegetation at that
9 particular site and had some concept of how he was going to
10 restore the natural vegetation?

11 MR. BOUCKHOUT: I know, Dr.
12 Hughes, that he has looked at it. I don't know in what
13 detail, and he did indicate to me the specific reference to
14 Duke Meadows, that in fact he was confident it could be
15 revegetated with native species which occurred in the
16 meadows.

17 DR. HUGHES: Thank you.

18 MR. CHAIRMAN: Okay, starting
19 from this end of the table then, Mr. McNally?

20 MR. MCNALLY: Explicit to
21 the Duke Meadows' area, being slightly removed from the
22 aquatic habitat, we have no explicit concerns. With
23 reference to the Duke River itself, of course, we have
24 normal concerns with reference to the crossing, but none
25 extraordinarily high in comparison to the adjacent ones,
26 so it's not an explicit special area in that sense, beyond

Mr. McNally
Dr. Krebs
Mr. Klassen
Dr. Theberge

1546

1 the normal concern that we have at each river crossing.

2 At this time, I won't expand any further.

3 MR. CHAIRMAN: Fine.

4 Mr. Romaine?

5 Dr. Krebs, are you familiar
6 with the Duke Meadows?

7 DR. KREBS: No, I am not
8 familiar with this site.

9 MR. CHAIRMAN: Mr. Klassen?

10 MR. KLASSEN: The only concern
11 that we have with Duke River Meadows, is that within two
12 miles of there, there are nesting raptors apparently, and
13 any area that is outside of our purview, there are migra-
14 tory birds, upland sandpipers' nests in the meadows.

15 It is a proposed I.B.P.
16 site and Dr. Theberge would like to make a few comments
17 on that aspect of it.

18 MR. CHAIRMAN: Fine. Dr.
19 Theberge?

20 MR. THEBERGE: One chapter
21 in our brief, "Systems for Preservation of Critical Lands
22 in the Yukon Territory, I.B.P. Sites, Parks and Wildlife
23 Areas", I hope that when you have some leisure between now
24 and when you file your report, you're able to read this in
25 a slow, methodical way.

26 We've addressed this in a

1 little broader framework, and pointed out that in our view-
2 point, part of assessing the environmental impact in a
3 broad context in the Yukon, needs thinking about the balance
4 between preservation and development as two strategies of
5 land use, that will be upset, to some degree, if a pipeline
6 is built, and methods of redressing that balance, which
7 includes these various forms of land tenure, including
8 I.B.P. sites, and it's our premise in the brief, that the
9 Yukon stands behind our neighbours, and there are figures
10 quoted, our neighbours, B.C., Alberta and the Northwest
11 Territories, in land that is preserved, at least land that
12 has some biotic features in it, if you ignore the ice
13 fields of Kluane National Park.

14 There is close to 4,000
15 square miles, slightly more than that, I think, of proposed
16 I.B.P. sites, which are within, or part of which are within
17 10 miles of the proposed Alcan corridor, and that, plus
18 possible Territorial parks that Mr. Hutton may mention,
19 and other forms of preservation that have been proposed,
20 are just sitting on the books, and they offer you a chance
21 to think about redressing that balance.

22 Since we have such a small
23 amount of land that's actually preserved, it to me, takes
24 a lot of nerve for our proposal to reflect possible damage
25 to the few ones that are proposed. There are 53 nations
26 in the world who have subscribed to the I.B.P. Terrestrial

1 Preservation Program , of which Canada, the Federal Government
2 of Canada committed Canada to doing, but the Federal Govern-
3 ment in Canada has done nothing about the proposed sites
4 that it has under its control, which are in the Yukon and
5 Northwest Territories, whereas some of the provinces have;
6 B.C., Quebec and New Brunswick have all passed Ecological
7 Reserves Acts.

8 So I hope that we don't just
9 focus on the particular sites completely, but keep this
10 broad context in mind of the balance between preservation
11 and development.

12 MR. CHAIRMAN: You have no
13 particular recommendations for this particular site then?

14 DR. THEBERGE: No, I don't.
15 I recognize that the pipeline here is squeezed between the
16 Kluane Game Sanctuary, which we also have a chapter of our
17 brief in, and we oppose the intrusion, unnecessary deep
18 intrusions into the park, so that's on one side of the
19 highway, and the I.B.P. sites on the other, and I suppose
20 the only way to handle that is to come as close to the
21 road as possible in that particular area.

22 MR. CHAIRMAN: Thank you.

23 Mr. Hernandez, do you have
24 comments on Duke Meadows? Mr. Bouckhout, do you have any
25 comments on what's been said?

26 MR. BOUCKHOUT: No, sir.

MR. CHAIRMAN: Panel staff?

Anyone from the floor interested in Duke Meadows?

(OFF THE RECORD DISCUSSION)

MR. CHAIRMAN: Okay, we'll leave Duke Meadows then, and go to the Ibex Pass issue.

We've had considerable discussion about this Ibex Pass issue in our first round of hearings, and it was identified as an area that was under pressure. The two Intervenors from the Outfitters' Association, and the local outfitters, were very strong in their concern about having a pipeline pass through their area.

There was concern over interference with sheep, and I wonder how you would like to address the issue, Mr. Bouckhout?

MR. BOUCKHOUT: Dr. Hill, I can offer very little in addition to the discussion which proceeded a couple of weeks ago. We are conducting studies in this area, both on the current alignment in the Ibex Valley, as well as looking at the alternatives.

Mr. Taylor is just now beginning a study, which will include a recreational land use

1 aesthetic evaluation of the alternatives, and these studies
2 then will form part of the data base, which will then be
3 used in assessing the relative merits of the current align-
4 ment, in comparison with potential alternatives, and a
5 final selection made as a result of that assessment.

6 MR. CHAIRMAN: Yes, I didn't
7 want to leave the impression, if I did, that we only had
8 Intervenor from two outfitters on this issue. We had a
9 great deal of intervention from the Game Branch, and the
10 Yukon Conservation Society.

11 We also heard from the City
12 of Whitehorse on this issue, as you recall, and during the
13 discussion, there was a route pointed to by one of the
14 persons representing the City of Whitehorse, which was an
15 alternate to the Ibex Pass route.

16 Have you considered that one
17 in any more detail than the others?

18 MR. BOUCKHOUT: I have
19 pointed that route, which was not a great deal different
20 than one we had also indicated, in fact I think that is,
21 in fact, the one they pointed to, I'm not, to my recollect-
22 ion, aware that they pointed anything different.

23 I've indicated to Mr. Taylor
24 that this is one that should be viewed with considerable
25 degree of effort, and he will do so.

26 MR. CHAIRMAN: I think the

1 best way to handle this is without retreating old ground,
2 we have the record of what was said in the first set of
3 hearings. Probably people have something to add to that,
4 but I don't believe there is any need to go over the ground
5 completely again.

6 So maybe with that in mind,
7 I'll start at this end of the table, and ask the Intervenors
8 to respond.

9 MR. MCNALLY: With that
10 introduction in mind, I'll just quickly add on. I wasn't
11 personally involved in the prior hearings of the Ibex,
12 however, I've had feedback to the general discussions in
13 it.

14 Perhaps pertinent to the
15 prior discussions and additive, I might just make a few
16 comments that the alignment that I have, the initial align-
17 ment that I have shown that ran up the Ibex, ran through
18 the area away from Whitehorse, and then tied back up
19 across the Yukon River at the general area of the Old
20 Lewis dam.

21 From a Fisheries viewpoint,
22 it can create several little problem areas in there that
23 are a bit of a nuisance. The Ibex itself has been identi-
24 fied as having fair fisheries values. The most recent
25 surveys, as I understand it, have indicated that there
26 have been Chinook frye captured in the Ibex.

In addition, there has been identified in the Wolf Creek and the Cowley. There is stock lakes, such as Jackson Lake in the area, which are locally utilized, and a fair centre of local residential fishing.

I understand, although I have not chased it down as to details, that part of the water that feeds into McIntyre Creek, is also contributory to the water supply for the local communities.

With reference to the alternate route, of which I'm aware, which leaves the highway at roughly pipeline Milepost 245, and then skirts parallel to the Takhini, crosses the Yukon River, downstream of Whitehorse, then circles around Whitehorse to tie back in on the easterly side of the Yukon, as a general alignment -- and speaking in general terms, and we have not had the opportunity to completely review the route -- but on a first estimation, it looks like the alternate would be much easier routing, as far as impacting on fish.

With reference to the two crossings on the Yukon, the downstream crossing on the proposed one looks like it will be a bit more attractive from a fisheries viewpoint. Straight off the cuff, there have been comments, for instance, that the Lewis dam area, there are historical reports of Chinook thinning immediately at the area, which has been taken initially as indicative of

1 potential spawning utilization of the area.

2 Now, we recognize the current
3 numbers that are utilizing this area, so you just -- it's
4 just to be borne in mind that the potential is there, and
5 solid documentary proof on it is open at the moment.

6 In summary, of course, one
7 must appreciate the alternate line by hitting through the
8 tops of a lot of small tributaries to the Takhini, has a
9 potential impact. That would have to be addressed specific-
10 ally, to be double checked to just see what that localized
11 impact is.

12 But on broad terms, in a
13 quick comparison to the two, and I hope I'm keeping this
14 brief, generally I would say that I would prefer to see
15 the alignment that swings away from the Ibex.

16 Thank you.

17 MR. CHAIRMAN: Thank you.

18 I believe there are probably
19 two or three alternatives that Mr. Bouckhout has under
20 consideration, and that's one of them.

21 MR. MEYER: Just to briefly
22 supplement that, from a user point of view in terms of
23 fish, only three points.

24 We do, of course, consider
25 this a high, an area of high importance, approximate as
26 it is to Whitehorse, the Ibex-Jackson Lakes general area.

Mr. Meyer
Mr. Bouckhout
Dr. Krebs
Mr. Klassen

•1564

1 For the same reason, there's a potential for conflict
2 between construction crews again and resident sport fisher-
3 men, and as Mr. McNally mentioned, due to the fact that we
4 have been involved in lake stocking programs, Fisheries
5 has an investment in the area which gives us another dimen-
6 sion of interest.

7 Thank you.

8 MR. CHAIRMAN: Okay. Would
9 you like to respond to that comment, Mr. Bouckhout?

10 MR. BOUCKHOUT: No, sir.

11 MR. CHAIRMAN: Fine. Dr.
12 Krebs, on the Ibex issue?

13 DR. KREBS: I have no specific
14 comment on the Ibex issue, except again it seems to me
15 imperative that they justify the deviation from the highway
16 route which would have much less impact.

17 MR. CHAIRMAN: Mr. Klassen?

18 MR. KLASSEN: Mr. Bouckhout
19 has already indicated Foothills' willingness to consider
20 alternative routes in that area. We expressed concern at
21 the June hearings in the Ibex area because of raptors
22 and sheep, and research that we have done since then,
23 indicates that we should add Rocky Mountain goats, or a
24 goat, singular, and grizzly bears to that list.

25 Research that was conducted
26 on raptors in the area by both Mr. Rowe of Beak

1 Consultants, and our own research indicated that there
2 were active golden eagle aeries in the area, that there
3 were inactive eagle aeries in the area, and that there
4 was a possibility for inactive -- or that some sites that
5 had been located, may be inactive peregrine aeries and
6 just today, Mr. David Mossop, our ornithologist was flying
7 in the area and he located an active gyr falcon aerie
8 in the Ibex area.

9 The complication that
10 results from the finding of that active gyr falcon aerie
11 today is that if the recommendation is followed that a
12 minimum distance of two miles be maintained between any
13 falcon aeries and the pipeline construction zone, this
14 becomes an impossibility because the Ibex Valley is not
15 that wide, so in order to adhere to that stipulation, it
16 would -- there would be no other way then to move the
17 pipeline alignment out of the Ibex Valley onto one of the
18 proposed alternate routes.

19 One of our researchers,
20 while working in the Ibex Valley saw, and the sighting is
21 listed in our report to you, mountain goat working down
22 the north slope of Mount Ingram one day, and then a goat
23 seen exactly opposite that sighting the following day,
24 working up on the north slope on Mount North Ibex.

25 Our concern for grizzly
26 bears stems from a sighting by TransNorth Turbo Air

1 helicopter pilot, Mr. George Howell, who saw a sow grizzly
2 bear with cubs of this year on the south facing slope of
3 the southern extremity of Heckle Hill, just over the hill
4 from the location, or the planned location of the compressor
5 station.

6 The concern there is that
7 because of the fairly constricted range of female grizzly
8 bears, the den in which those cubs that were accompanying
9 her were born, is probably within a mile, two miles, three
10 miles of the present alignment through the Ibex area.

11 Dr. Hoefs conducted the
12 research on sheep in the area, and he has a table of
13 sightings in the Ibex Valley that is included in the report,
14 and he is present here if questions concerning that populat-
15 ion require his answers.

16 I think that's all that we
17 have to say about the Ibex, the sightings of the single
18 goat and the grizzly bear with cubs, and the report today
19 of the active gyr falcon aerie lend considerably more
20 weight to our argument that the route should be changed
21 in that area, and I hope that Foothills will take that into
22 consideration.

23 MR. CHAIRMAN: Mr. Bouckhout?

24 MR. BOUCKHOUT: No sir, I
25 don't think I have any more comments on the Ibex situation
26 at this time.

Mr. Hernandez

Mr. Chambers

Mr. Bouckhout

Mr. Lazerte

MR. CHAIRMAN: Mr. Hernandez?

1567

MR. HERNANDEZ: I'll just add that our reports also recommended consideration of a reroute out of the Ibex.

MR. CHAIRMAN: Thank you.

Any questions from the panel?

MR. CHAMBERS: In our June meetings, there was quite a bit of concern of the disturbance to sheep plus raptors and so on there, and it seemed to me one of the problems that was brought up was the compressor station site, and its noise disturbance and so on.

What flexibility is there in location of the compressor station site out of the Ibex if, in fact, the pipeline did go through the Ibex?

MR. BOUCKHOUT: I would like to turn that particular question over to Mr. Lazerte, who is with us, and is more familiar with locations of compressor stations and their flexibility than I am.

MR. LAZERTE: Could I just have a minute, please?

Well again, as I mentioned the other day, the profile in the area would determine the latitude that we have. It's fairly steep in there, but certainly a mile, a mile and a half wouldn't be any problem to us. And Leo advises me that that would take us out of

1 the particular problem.

2 MR. BOUCKHOUT: It would at
3 least take us out of the Ibex Valley, if we were to move
4 downstream in that order. It would obviously put us closer
5 to Whitehorse, it would put us closer to Louise and
6 Franklin Lake and in that order again, it's simply one of
7 those things that has to be evaluated in the equation, as
8 Mr. Lazerte has indicated, and with more authority than I
9 had when I talked about compressor station mobility a
10 couple of weeks ago, that we do then have the flexibility
11 in station location to move it downstream, and thereby out
12 of the valley itself.

13 MR. LAZERTE: I would like
14 to add that if we ran into a particular problem that was
15 extremely tough, rather than go for the advantages of
16 uniformity of units, that is in horsepower, that we could,
17 in a situation, go on up in horsepower which would give us
18 much more latitude, so in a particular situation, we're
19 fairly flexible.

20 MR. CHAIRMAN: If, in fact,
21 the compressor station was moved out of the valley, would
22 this make any difference to your recommendation on the
23 alternate site, Mr. Klassen?

24 MR. KLASSEN: If the compressor
25 station was removed completely from that particularly
26 sensitive area between where the, the point where the

1 pipeline leaves the general area of the highway, and where
2 it returns to it, that would remove the problem of disturb-
3 ance that we are concerned about the effect it would have
4 on sheep making use of Heckle Hill as summer range,
5 regardless of how infrequent that use may, at this time,
6 appear to be.

7 There is a problem that
8 remains, however, if the pipeline does go through the valley,
9 and that is one of access, and Mr. Mossop will explain to
10 you some of the ramifications of altitudinal access, if I
11 may turn it over to him.

12 MR. CHAIRMAN: Fine.

13 MR. MOSSOP: Yes, I think
14 we have made a great deal about access, and I know in both
15 hearings of all the pipelines across the Yukon, and any
16 major development that comes up, the wildlife biologists
17 are always talking about access.

18 One of the concepts of access
19 in the Yukon, and in fact, in any mountainous terrain, is
20 this concept of altitudinal access, and I think here we can
21 perhaps draw together the two major areas of divergence
22 from the highway that we've talked about, the Squanga Lake
23 diversion and this one, in that access to highlands is
24 being offered by the pipeline right-of-way.

25 The point that I wish to
26 make is that access to things like, in my case, gyrfalcon

1 and golden eagle aeries if given access at the same alti-
2 tude, an access of 10 miles distance would be equal, in my
3 mind, to something like 3,000 feet in vertical distance.

4 This kind of argument puts
5 the impacts of an access in a valley bottom in a place
6 like Squanga Lake, far less than the impacts of putting
7 that access up over the mountain, even though it's perhaps
8 further in a longitudinal distance from active aeries in
9 my case, in alpine animals, in other instances.

10 Is that reasonably clear?

11 MR. CHAIRMAN: Yes, I think
12 I understand your concept.

13 MR. CHAMBERS: I would like
14 to ask Mr. Mossop a question on that. As you're well
15 aware, the ^{Pass} Ibex/already has two or three access roads
16 and trails through it, as well as Heckle Hill, with the
17 C.N. tower, I believe, or whatever station that is on top
18 of the hill, has altitudinal access.

19 I'm wondering, this is one
20 of the questions why I posed the compressor site station
21 location, is that you wouldn't need permanent access in the
22 Ibex Pass, if you didn't have a compressor station there
23 and that seemed to be one of the things that came out at
24 earlier meetings on this. But you still feel that the
25 right-of-way of the pipeline is going to provide access, or
26 just what was the comment?

Mr. Mossop
Mr. Chambers
Mr. Wykes
Mr. Bouckhout

•1571

1 MR. MOSSOP: I think the point
2 has been made many times, that we can't agree with the access
3 there now, a lot of it is unfortunate and some of it has
4 been questioned by this Branch -- as unfortunate. I
5 think it's already been pointed out by Foothills that their
6 right-of-way is, in fact, going to allow additional access.

7 We don't know, I can't put a
8 comparison on how much more access it's going to allow
9 compared to what's already there now. That's what you're
10 after, in effect, isn't it?

11 MR. CHAMBERS: Yes, my point
12 is that there's access already there, that's why I am
13 wondering, you know, what were the incremental amounts of
14 what you're talking about in additional access. It's not
15 a wilderness area.

16 MR. MOSSOP: Certainly there's
17 not access to the whole route, but I can't put a figure on
18 how much more access is going to be allowed.

19 MR. WYKES: Mr. Bouckhout,
20 I was wondering, in terms of assessing the alternatives to
21 avoid going through the Ibex Pass, if you could inform us
22 as to which one Foothills might be favouring at this point,
23 from the environmental information they have gathered to
24 date?

25 MR. BOUCKHOUT: Strictly
26 from the indications I have to date, and the significant

1 concerns voiced in the general area, the preference would be,
2 if it could be called a preference, and this would be very
3 much a personal one, I would suspect the general route
4 which would return to the existing alignment just west of
5 Whitehorse. In other words, the shortest alternative, in
6 terms of total length.

7 MR. WYKES: East or west of
8 Whitehorse?

9 MR. BOUCKHOUT: West, I think.
10 On the southeast slope of Heckle Hill.

11 MR. WYKES: That's in the
12 vicinity of the old Whitehorse Copper road, it's where the
13 present City of Whitehorse garbage dump is?

14 MR. BOUCKHOUT: That's right.

15 MR. WYKES: Thank you.

16 MR. CHAIRMAN: Any more
17 questions from the panel?

18 Dr. Hughes?

19 DR. HUGHES: I don't have a
20 question, I have a comment. It's possible that in avoid-
21 ing one sensitive area, you may encounter another, and I'm
22 -- I would hope you would be cognizant of that.

23 My pet is an area immediately
24 north of the Alaska Highway, and just east of the Takhini
25 bridge crossing. There's an area there of unique thermo-
26 karst forms, very similar to the form called Alas

1 in the Russian literature, and there's a salt flat in
2 there that has very rare plants, and a very rare beetle
3 and other insect assemblage, and the interest in that is that
4 it's the closest analogue that has been found so far to the
5 type of widespread Arctic step vegetation that existed over
6 Yukon and Alaska in, perhaps 30 or 40,000 years ago, and
7 it has a very particular scientific interest for that
8 region, so I would hope you would look closely at some
9 possible other sensitive areas that you might encounter in
10 trying to avoid another one.

11 MR. BOUCKHOUT: I'm glad you
12 brought that up, Dr. Hughes. That's precisely why I've
13 been saying that it is no mean feat to recognize a concern
14 on the existing alignment and immediately adopt an alter-
15 nate alignment, that equal consideration must be given to
16 the alternate for those very reasons that you've indicated.

17 DR. HUGHES: Well, perhaps
18 I should have asked you if you'd made an inventory of the
19 beetles of the Yukon?

20 MR. BOUCKHOUT: No sir, we
21 have not.

22 MR. CHAIRMAN: I'm just
23 wondering how you see the process from here on, assuming
24 the government looks with favour on a general proposal to
25 build a pipeline through the southern Yukon, how would you
26 go about finalizing your route selection for the next phase

1 of proposal?

2 MR. BOUCKHOUT: With respect
3 to this particular area?

4 MR. CHAIRMAN: Well, all of
5 the alternatives talked about, Sheep Mountain, Squanga Lake
6 and so on, what's the next phase as you see it, in submission
7 of your preferred route to government?

8 MR. BOUCKHOUT: As I see it
9 now, Dr. Hill, the studies which are ongoing evaluating
10 these proposals will, or these potential alternates, will
11 result in a selection by the Environmental Department of
12 one particular route, which we feel is the optimal one.

13 Before that final selection
14 is made, we have already had some discussions with both
15 the engineering and construction departments regarding the
16 areas we are considering for alternates, and they have had
17 a cursory look at them, they are now awaiting our final
18 word on whether, rather on which route we would prefer,
19 and which route we will adopt.

20 Once that is done, then they
21 will proceed toward completion of more detailed evaluation
22 of that route, and if it is in fact feasible from an
23 engineering and construction point of view, then the route
24 will be finalized in that respect.

25 We have already discussed
26 some of the procedures and studies which must be done in

1 finalizing the route. Some of the ones we have particularly
2 stressed included detailed geotechnical drilling and assess-
3 ments of this nature, and such studies must also be taken
4 into account in the finalization, when a final route for
5 detailed design is adopted, and detailed design will, of
6 course, proceed.

7 I anticipate that there will
8 be some mechanism for final regulatory approval, not only
9 of the location, but of the design and other similar matters.
10 What authority this might be currently, of course, the
11 authority is the National Energy Board.

12 Our designs would be sub-
13 mitted to that body, and approval of final designs will be
14 forthcoming, or suggestions for modifications of those
15 final designs.

16 MR. CHAIRMAN: Right, there's
17 one small correction, one of the authorities is the
18 National Energy Board.

19 MR. BOUCKHOUT: Yes, I'm
20 sorry, I didn't mean to cut everybody else out.

21 MR. CHAIRMAN: I believe the
22 Territorial Lands Act is going to have something to say
23 about where you put a pipeline.

24 MR. BOUCKHOUT: That's
25 right.

26 MR. CHAIRMAN: Yes. Okay.

You know, there are obvious implications on compressor station location and design. I wouldn't think you would, the government would give an

1 approval without having another cut at a proposal. Since
2 you're in the process of looking at these alternates in
3 depth, I was wondering when really in the next stage of
4 the environmental assessment process, you would think you
5 would have the proposal finalized?

6 MR. BOUCKHOUT: I would
7 expect, sir, that an alternate, if it were to be adopted
8 in the two areas we're speaking of now, which means the
9 Whitehorse area and the Squanga Lake area, were to be
10 adopted, that decision would be made within six months, at
11 the most.

12 MR. CHAIRMAN: Thank you.

13 MR. ROMAINE: Mr. Chairman,
14 I would like to address a question myself on the process,
15 if I have understood it, to be discussed here, and we've
16 also got some more questions on the Ibex route before
17 we leave that subject.

18 But getting back, I would
19 like to try to understand again the process that was
20 described. My understanding, Mr. Bouckhout, was that the
21 process was as follows; that at this point, your Depart-
22 ment of Engineering is basically looking at preferred
23 route options from that point of view?

24 MR. BOUCKHOUT: Mr. Romaine,
25 I have indicated to our engineering and construction groups,
26 that there was concern in three particular areas with

1 respect to the alignment, and these are, in fact, the three
2 areas which are being discussed today, that we would potent-
3 ially be recommending alternate routes in one or more of
4 these areas, and I indicated to them, in very general terms,
5 what those alternate routes might, in fact, be.

6 With respect to Sheep Mount-
7 ain, for instance, in the meeting I referred to earlier, a
8 member of our construction department was in attendance at
9 that meeting, so that he could as well have a first-hand
10 knowledge of the area and of the implications.

11 MR. ROMAINE: Thank you.

12 What I'm really trying to clarify is the procedure, which
13 comes first. Some of the understanding that I have though,
14 that the sort of, overriding criteria for selection of
15 alternatives in the problem areas here, is based principally
16 first on the geotechnical side, and then secondarily, that
17 the environmental side, would look at those alternatives
18 and suggest the operable route that they prefer, is that
19 correct?

20 MR. BOUCKHOUT: No sir,
21 that's not correct. The alternative would be proposed by
22 the environmental group, the geotechnical people, as well
23 as the construction people, would have to look at that
24 alternative to see if, in fact, it is engineeringly feasible.
25 That's why you have to have both groups involved in that
26 process.

1 I am not personally pro-
2 ficient in route selection from an engineering point of
3 view.

4 MR. ROMAINE: Okay, so as I
5 understand it then, there's two components that go into
6 the final selection. I guess the question though still
7 remains as to the overriding criteria in terms of -- I'm
8 not quite clear what you mean by engineering feasibility.
9 Perhaps you could elaborate on that?

10 MR. LAZERTE: Perhaps I can
11 expand a little bit, and I guess repeat what Leo has said.

12 We have, of course, environ-
13 mental concerns, engineering concerns and construction
14 concerns, and I think you can appreciate as a practical
15 manner, that all have input, and I don't think it's proper
16 to say that one or more groups would have necessarily more
17 input than others.

18 But it is a consensus, and
19 we would want to look at all the alternatives from all
20 respects, and then reach that consensus.

21 MR. ROMAINE: Okay, I have
22 not seen the -- or I am not intimately familiar with some
23 of the earlier discussions that probably went on with
24 these problem areas, in respect to the rationale for the
25 existing alignment, but was there an environmental component
26 in the selection of the alignment first time around?

1 MR. BOUCKHOUT: We have discussed
2 this before as well, Mr. Romaine. The way the original
3 route was selected was through primarily a reconnaissance
4 survey, with some ground work sparingly, but particularly
5 with aerial survey. The survey itself included members of
6 the construction department, as well as the environmental
7 department, and in so doing, we attempted, from our perspective,
8 in a very overview fashion, and a very, very preliminary
9 fashion, to have our input into that route selection at
10 that stage, realizing full well that once more ground based
11 data was collected, that changes in our original opinion
12 would very well come up.

13 And then we understood, as
14 the route was defined, and the route as you see it on the
15 photo mosaic alignment sheets, had enough inherent flexibility
16 that it could, in fact, react to this type of data
17 as it became available, and could, in fact, be altered in
18 response to such information.

19 MR. ROMAINE: Okay, thank you.
20 The reason I'm sort of pursuing this, and it may seem a bit
21 naive, but one of the problems, as I understand it, is
22 that the -- the problems that we've got into now are
23 alignment, and the sort of search today for alternatives
24 through an area, we could possibly end up in the same kind of
25 situation again with an alternative, unless there is some
26 type of very careful review, I guess, of all aspects.

That point has not been brought up here, for example, and I guess what I'm really grappling with is that what we may be doing here is shifting the alignment to somewhere else, and I just wondered with the degree of firmness the next alignment will have, and the degree of flexibility and change in that, if indeed, there are other environmental concerns, and if they're not brought in early on in the process.

MR. CHAIRMAN: Maybe I can have a crack at that, because it's as much a government

1 question, I believe, as a proponent's question.

2 We are writing an interim
3 report on what we find environmentally along this route,
4 and we're going to have a quick look at some of the alter-
5 natives in the Yukon. In that report, we'll come to terms
6 with some of the major environmental difficulties.

7 The recommendations, our
8 recommendations, will reflect those major difficulties.
9 They will also reflect some of the discussions we're having
10 now about alternates. We obviously will not be completely,
11 have all the data on all the alternates, but we will make
12 some recommendations of what should be done in the future
13 with regard to the continuance, the continued planning.

14 It's then, of course, the
15 proponent's job to come up with the next proposal, and
16 it's up to government to review and approve, so that this
17 is the process.

18 As you point out, in very
19 difficult areas, that process may go on right down
20 until the final design stage, but that is the process.
21 The proposer proposes, and the government disposes.

22 MR. ROMAINE: Yes, I appre-
23 ciate that, although usually when you get down to the final
24 design, the route has been selected. Is it not true?

25 MR. CHAIRMAN: That's right.
26 All I'm saying is some of the route can be dealt with

1 early on. Some of the route will take a long time to
2 decide on.

3 I guess really, if I could
4 just make a summary point on that, that in some of these
5 difficult areas, the alignments that have been identified,
6 or possible changes here may not be all the ones that should
7 be looked at for some of the problem areas.

8 MR. CHAIRMAN: Yes, of course.
9 You know, I don't want to give the impression that the
10 route's approved in any way. You know, we may be, in fact,
11 doing an important job of disposing here.

12 Okay, can we have any quest-
13 ions from the panel on the Ibex Pass, panel staff, I mean?
14 Any comments from the floor, I'll come back in a minute.
15 Any comments from the floor?

16 Questions from the panel?
17 A sum-up statement?

18 MR. ROMAINE: No, but Mr.
19 Herb Wahl would like to raise a question on that.

20 MR. CHAIRMAN: Mr. Wahl?

21 MR. WAHL: The Atmospheric
22 Environment Service expressed a concern that the compressor
23 stations may, in fact, cause an ice fog or a fog condition,
24 and I have not had the opportunity to see the alternative
25 routes from the Ibex.

26 When we made an initial

1 comment about compressor stations, I had stated that we
2 had seen advantages for having the compressor site at
3 the higher elevation of the Ibex Pass. If, in fact, the
4 compressor station is moved into the lower elevations of
5 either the Takhini or the Yukon River, this could cause a
6 considerable amount of concern as far as the movement of
7 aircraft and vehicular, and although as yet, we haven't
8 resolved as to whether the compressor stations will, in
9 fact, cause a fog condition, we are of that opinion at this
10 time.

11 I would be quite concerned
12 that if the compressor station were moved into the valley
13 floor of either the Yukon or the Takhini, at say, elevations
14 below say, 3,000 feet, that this could be quite a problem
15 for the City of Whitehorse.

16 MR. CHAIRMAN: Yes, thank you.
17 Anyone else any more comments
18 on Ibex?

19 Mr. Bouckhout -- Mr. Klassen?

20 MR. KLASSEN: Just one, I
21 would like to point out that in the short time that we've
22 had to look at the area, we've found this one active gyr
23 falcon aerie that had been missed by I don't know how many
24 flights, and since that is the case, it's quite possible
25 that we have missed others, and we also don't know the
26 location of that bear den.

MR. CHAIRMAN: Fine.

MR. BOUCKHOUT: In all due

We appreciate the concerns, that moving out of the Ibex, area which is closer to have land use implications, t the results of Mr. Taylor's better handle on that, and

It may be one of those

instances, as Mr. Lazerte has already indicated, where particular design mitigative measures might be applied.

1 I am not too familiar with
2 whether there is anything possible in that respect, in con-
3 sideration of ice fog generation, but it may very well be,
4 so that in the final selection, we will endeavour to take
5 these various factors into account.

6 MR. CHAIRMAN: Mr. Lazerte?

7 MR. LAZERTE: Well, perhaps
8 I just didn't follow this precisely, but I'm not quite sure
9 how that compressor station ended up immediately adjacent
10 to Whitehorse.

11 It would appear that if we
12 rerouted, it would end up farther away, but that's just a
13 very fast observation. I'm not sure how it got so close
14 to Whitehorse.

15 MR. CHAIRMAN: Well, I don't
16 either. I understand there's a perception that when the
17 --on the existing proposed alignment, when the compressor
18 station is moved, it would move towards Whitehorse rather
19 than farther away. Is that incorrect?

20 MR. LAZERTE: Well, I was
21 just glancing at the map, and assuming that we were swing-
22 ing north towards the highway, and just arcing it north,
23 I got it farther away just quickly, and it would seem that
24 that is what would happen.

25 MR. CHAIRMAN: I think I
26 understand the confusion. We're getting our alternatives

1 confused here. I believe the person that was speaking
2 about moving of the compressor station closer to Whitehorse,
3 was under the impression that, with the existing alignment,
4 and with the flexibility you have in locating the compressor
5 station on that alignment, if you moved the compressor
6 station, you would move it towards Whitehorse.

7 MR. LAZERTE: I see.

8 MR. CHAIRMAN: Is that
9 correct?

10 MR. LAZERTE: Yes, I think
11 that is correct. Just quickly scaling it off here, I think
12 we're, if I can just ask Leo what the scale is on this,
13 we're still -- if we moved it a mile, we're still a couple
14 of miles, on the present alignment, we're still a couple
15 of miles from Whitehorse, as I quickly look at it.

16 MR. CHAIRMAN: I see.

17 Okay. Does that exhaust the
18 Ibex issue?

19 Thank you very much for the
20 advice, and I think possibly we should have a cup of
21 coffee, and then move to the recreation issue.

22 MR. ROMAINE: Mr. Chairman,
23 as I understand it, we still have a specific problem, and as
24 you may recall we did identify a number of others that we
25 would like to introduce.

26 MR. CHAIRMAN: Okay, how

1 many do you have?

2 MR. ROMAINE: Well, it depends
3 on how you wish to handle them, but I believe that we would
4 like to identify a few crucial ones, and then at least
5 register a number of others.

6 MR. CHAIRMAN: What I was
7 going to do was to go through the other concerns, and then
8 return to all other issues in this section.

9 MR. ROMAINE: All other
10 issues under today's session then?

11 MR. CHAIRMAN: That's right,
12 yes. Would that be satisfactory?

13 MR. ROMAINE: Fine.

14 MR. CHAIRMAN: No, no, all
15 other special or unique areas or species that -- we would
16 return to that, after we deal with recreation areas and
17 alignments.

18 Okay then, let's break and
19 have a cup of coffee.

20
21 (PROCEEDINGS ADJOURNED)
22
23
24
25
26

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

MR. CHAIRMAN: Mr. Bouckhout,
do you have anything to say?

MR. BOUCKHOUT: Yes, Dr.
Hill, just a brief comment since it may not be apparent to
everyone. The gentleman on my immediate right, Mr. Ken
Roberson, who has been making comments on his relevant
experience in Alaska with the Alyeska Pipeline, is here at
my request.

Ken is not an employee of
Foothills, nor is he a consultant to Foothills. When you
announced the proceedings for this particular hearing
phase, I called some people that I knew in Alaska who had
worked on the Alyeska program, and we, of course, are in
contact with many of them, in an effort to stay up-to-date
with what their experiences were and what we might
encounter.

As I say, I did call these
people and request that if someone were available, that
it might be worthwhile for them to come to Whitehorse with
us to sit in on the hearings, and where there may be
topics of relevance where experience from Alyeska might
be of interest to the panel, to speak on those topics.

So perhaps Mr. Roberson might

1 want to add just a couple of comments, but I thought it
2 might be worthwhile that everyone understood that situation,
3 that Mr. Roberson is not a consultant to us.

4 MR. CHAIRMAN: Thank you very
5 much, Mr. Bouckhout.

6 Now, I would like to establish
7 where we stand on today's agenda. Treating the Ibex Pass
8 and the Sheep Mountain, Duke Meadows and Squanga Lake
9 separately, we no doubt have covered at least some of the
10 issues involved in the wilderness violation concept, and
11 also unique species.

12 My question is, have we
13 covered all the issues on those two topics?

14 MR. KLASSEN: Mr. Chairman,
15 not so far as the Wildlife Branch is concerned. We have a
16 few areas that we would like to discuss, one of which is
17 the Cassiar Mountains, and sheep population that makes
18 use of that range for at least part of the year.

19 Under the area, or subject
20 of "Unique Areas," we'd like to make some unique areas
21 and species. I have a prepared statement concerning fur-
22 bearers that Mr. Ralph Archibald, our furbearer biologist
23 would like to have read into the record, and Mr. David
24 Mossop has some comments on sharp-tailed grouse and some
25 migratory bird refuges.

26 MR. CHAIRMAN: Fine, and Mr.

1 Romaine also has some.

2 MR. ROMAINE: Yes, Dr. Oswald
3 would like to make a comment, and Mr. Meyers would also.

4 MR. CHAIRMAN: Okay, then I
5 think the best way to proceed is to continue with the
6 recreational issue, and then we'll come back to the unique
7 species and wilderness concept issue.

8 Okay, we did receive a brief,
9 I believe, if I can find it among my papers, on the -- from
10 the Yukon Territorial Government on recreation. Mr. Don
11 Hutton, I believe, would like to address that.

12 MR. HUTTON: Just as an open-
13 ing comment, I would like to point out what to me seems to
14 be a very general observation, that the majority of the
15 comments that I've heard today and this evening, regarding
16 the resources, I think they are all applicable to the very
17 broad general topic of outdoor recreation.

18 I think ultimately any deci-
19 sion affecting a particular species of animal, fish, plant,
20 affecting any landscape, aesthetic values, et cetera, they
21 all in one way, shape or form, will ultimately affect the
22 quality of the recreation experience, or of out-door recreation.

23 We have three or four con-
24 cerns, the first being the glaring lack of information,
25 baseline information, recreation capability information,
26 along the proposed alignment. Consequently, we are unable

1 to react in any meaningful way to the proposal or to the
2 alignment, as it would affect potential recreation areas.

3 However, we can make some
4 comments on existing recreational areas, which I would
5 define as our campgrounds and day use areas, et cetera.

6 The concern we have with
7 these areas is naturally the alignment, as it passes close
8 to them, or in some cases, perhaps through a slip of a
9 pen or something, the alignment shows the actual destruction
10 of an area. This, of course, would not be tolerable unless
11 some type of relocation was indicated.

12 We are concerned with people,
13 we are concerned with the people that will be in the Yukon,
14 using the facilities, using the recreation areas, using
15 potential recreation areas. People will be our big problem.
16 They are the species that will impact to the greatest degree
17 upon the resource of recreation, if you wish to call it
18 that.

19 I consider at least five
20 classes of people, if you wish, that will have an impact
21 or will be impacted upon in some way, shape or form by
22 the pipeline, and that would be naturally, the people that
23 are living here, those who will be coming into the Yukon,
24 whether or not there is a pipeline, commonly known as a
25 tourist; those people who will be attracted to the Terri-
26 tory because of the pipeline, also in the tourist category;

1 those people who will be attracted to the pipeline looking
2 for work, and those people who will actually be employed by
3 the pipeline company on the actual construction. These
4 people, all of them will, at some point in time during the
5 construction of the pipeline, engage in some sort of outdoor
6 recreation activity, and the obvious result will be, with a
7 large influx of people, they will place a tremendous
8 strain on our existing system of facilities.

9 I'm speaking primarily of the
10 existing campground system, and I think perhaps I could
11 give you a quick description of the system as it exists.
12 The majority of the campsites are at the present time
13 located close to the highways in the Yukon. Many of them,
14 I think in the neighbourhood of 15 to 20 of these sites,
15 are located relatively adjacent to the proposed alignment.

16 Again, the majority of them
17 were constructed in the '40's and '50's by the federal
18 government, primarily as a fire control measure. They're
19 small, they were not located with outdoor recreation
20 opportunities in mind.

21 In many cases, there is
22 little opportunity to expand them, and the facilities are,
23 at the present time, reaching the peak capacity during the
24 peak use month of July.

25 The common impacts from all
26 these various categories of people on the outdoor

1 recreation facilities, potential or those that we have,
2 they're going to crowd the existing facilities. There's
3 going to be over-use, or continued over-use of -- or
4 extended over-use of the situation we already have.
5 There's going to be increased litter problems, and this, I
6 think, can be a very serious problem, it is already.

7 It is going to require addi-
8 tional sanitary land disposal sites, as we call them in the
9 Yukon, garbage dumps. There's going to be an extension of
10 the facilities with these people into the Territory, there
11 is going to be an extension of the use of the facilities
12 into the shoulder seasons.

13 Right now, we experience the
14 majority of the use from approximately mid-June to mid-
15 August. We predict that there could be an extension of
16 the use of these facilities, and again, this is going to
17 create over-use, et cetera.

18 The people that are living
19 here, the impact on them will be, naturally they're in the
20 Yukon for -- we've all heard it enough times, why these
21 people are in the Yukon, their favourite fishing hole,
22 their favourite camping area, et cetera, the possibility
23 of it being crowded is simply going to force them into
24 seeking alternate sites for their outdoor recreation.

25 At the present time, there
26 is no planned system in the Territory to provide facilities,

1 to provide direction, to provide control.

2 The people that are coming,
3 the tourists, and the people who will be up here attracted
4 to the pipeline, with them staying in the campgrounds, the
5 majority of the people that come and using the outdoor
6 recreational facilities, will be driving the Alaska Highway.
7 Construction activities adjacent to the campgrounds, will
8 have a disturbing effect.

9 As I mentioned, most of the
10 campgrounds are located close to the highways. Truck
11 traffic, et cetera, will have a disturbing effect.

12 People coming up the highway
13 seem to experience a sense of anxiety, the wilderness
14 simply scares them, and can you imagine stopping for an
15 evening in a campground, a nice, quiet spot, or what
16 appears to be a quiet spot, with pipeline construction going
17 on a quarter of a mile away?

18 The people that will be
19 attracted to the Yukon, looking for work on the pipeline.
20 We have a problem in many of our campgrounds right now,
21 which I will call these people transient workers, migrant
22 workers. They feel that they should get into the camp-
23 grounds and be able to camp there for the summer period.

24 This type of person, and the
25 tourist and the resident, weekend camper, holiday campers,
26 recreationists, they don't mix, and there has been conflicts.

1 There's nowhere else for these people to go, these migrant
2 or transient workers at the present time.

3 People employed by the pipe-
4 line contractor. In various camps that will be located
5 along the alignment, camps of perhaps a hundred people,
6 perhaps 500 people, will have a tremendous impact on local
7 recreation spots, and they'll have a tremendous impact on
8 potential recreation spots, which we don't even know about
9 yet.

10 In many cases, they'll
11 double, treble, quadruple the intensity of use. This demand,
12 or this impact as we see it, is going to create a tremendous
13 demand in the next two years for government officials to
14 plan, to properly plan and develop additional facilities.
15 In fact, in light of the current information base we have,
16 it will be virtually impossible to come up with a proper
17 plan in a two year period.

18 What I am thinking of specific-
19 ally are additional, the planning and development of addi-
20 tional destination areas for residents, special areas for
21 transient summer campers, migrant workers, relocation of
22 what I would call affected facilities, campgrounds that
23 will have the pipeline going through the kitchen, and
24 determining suitable access is a point I'll mention in a
25 moment, which access should be controlled into areas, and
26 which shouldn't.

1 We feel also that additional
2 strain on the campgrounds we've got, as I mentioned they're
3 small, they are of an open design, they're not similar to
4 what you would find outside. People are allowed to camp
5 where they please. You start getting intensive use in
6 areas like this, and I mean extremely intensive use, and we
7 are approaching that at the present time, you're going to
8 have people conflict, and in many cases, these campgrounds,
9 if there are no suitable relocation sites, are simply going
10 to have to be redesigned for multiple use, if you want to
11 call it; certain stalls, group camping areas, open camping
12 areas and everything.

13 Another concern which we have
14 is access control. I believe Dr. Theberge commented on
15 that and numerous others today. A recreation potential,
16 once identified, is of no value to we, the human species,
17 unless we have some type of a conventional access to it,
18 or some type of access to it.

19 In many cases, considering
20 that we have a limited number of outdoor recreation
21 facilities, and in fact, opportunities in the Territory,
22 in many cases, controlled access and rigidly controlled
23 access may be beneficial -- controlled and planned access.

24 At the same time, uncontrolled
25 access, uncontrolled development, unplanned development,
26 the particular potential could be destroyed very quickly and

1 very easily.

2 Finally, the aesthetics, which
3 were brought up by Dr. Hughes today. I agree with your
4 comments, and this is a very important part of recreation
5 and a recreation experience, and there was some comment by
6 Foothills people, that, perhaps it was Jim Taylor, with
7 visual accessibility, and you felt at the present time that
8 perhaps there was a highway priority.

9 I would suggest that you would
10 look into the Yukon Visitor Exit survey, Ottawa
11 Visitor Exit survey, which was conducted last year, to
12 determine the reasons why visitors came to the Territory,
13 and what they expected to find when they were in the
14 Territory and they didn't.

15 The majority of people, and
16 it seems perhaps contradictory, but the majority of the
17 people came to the Territory, they were just passing
18 through; secondly, they were on business, and thirdly, to
19 visit friends or relatives, and yet in another question,
20 by far the greatest majority, and the question was which
21 of the following did you hope to find but did not while in
22 the Yukon, probably 60 to 70 per cent, and in this order,
23 hoped to find outdoor recreation activities, wilderness
24 camping, hiking trails, historic site tours, river travel.

25 I would suggest that you
26 should perhaps, with your visual accessibility, look a

1 little closer at the recreation end of it, because highway
2 travellers seem to be just passing through, and of what
3 consequence is a visual scar to them?

4 As a final point, I would
5 like to say that in light of the current lack of information
6 and as I say, recreation capability information, I would
7 generally have to agree with comments made by Dr. Krebs
8 that a highway alignment, at this point in time, would seem
9 to be the most appropriate.

10 I have two specific questions
11 which I would like to direct to Mr. Bouckhout, and the
12 first is -- well, just as a background, Mr. Bouckhout has
13 indicated that they will, in fact, be conducting a recreat-
14 ion capability mapping study this summer, Jim Taylor and
15 people.

16 My question is that in light
17 of recent announcements, do you, in fact, plan to continue
18 this study from Beaver Creek to Whitehorse, as well as, or
19 in conjunction with the Whitehorse southern exit, and the
20 second question would be, have you given any consideration
21 to the provision of outdoor recreation facilities for
22 people in your construction camps, and if so, what and
23 where would you plan to locate them?

24 MR. BOUCKHOUT: As to your
25 first question, no decision has been reached as to whether
26 or not we will continue with the recreation capability

1 work north of Whitehorse.

2 The recreation capability
3 studies which we're undertaking have just begun some one or
4 two weeks ago, I guess, and they are concentrating on a
5 capability mapping, which is utilizing a standard procedure,
6 and whether or not we will extend the confines of the study
7 north of Whitehorse, has not been decided.

8 The proposal originally put
9 forward was that, of course, the entire alignment would be
10 studied, and the entire alignment will be studied, wherever
11 it is.

12 With respect to your second
13 question, to my knowledge, we have not built in outdoor
14 recreation facilities into our camp design. I'm not
15 really sure what you mean by outdoor recreation facilities.
16 Certainly recreation facilities, per se, have been considered
17 in the design of the camps.

18 Could you give me some
19 clarification as to what you mean by outdoor recreation
20 facilities?

21 MR. HUTTON: I'm thinking of
22 a camp, say, of 250 to 500, 700 workers, with their days
23 off, what do they do on their days off? Do they go to
24 government campgrounds, use government boat launching
25 facilities, day use areas?

26 I'm sure you can appreciate

1 the intensive type use that this would create, and the
2 almost total destruction that could occur in our already
3 over-used facilities.

4 MR. BOUCKHOUT: In response to
5 that, and this issue is dealt with in more detail by our
6 socioeconomic group than by the environmental department.

7 A couple of points may be
8 applicable. First, you mentioned days off. As I remember
9 it, the plan is not to provide rest and recreational leave
10 in Yukon during the term of the project.

11 Now, by that I do not mean
12 that workers will be working 365 days a year. They will
13 be working during the construction seasons. There is a lag
14 phase at the end of each construction season before the
15 next one begins.

16 Workers who are hired in the
17 south would be then transported back to the south; workers
18 who are hired in Yukon, of course, would be on their own,
19 and would be members of the local population, in any event.

20 The issue of how many people,
21 and the pressure this number of people might put on
22 recreation facilities in the Yukon, is one again which is
23 dealt with more specifically by the socioeconomic group,
24 under the overall topic of "in-migration". It might be
25 worthwhile just to make a couple of points here.

26 There has been a lot of

1 reference made to the situation which may occur in the Yukon,
2 being akin to that which occurred in Alaska. I don't think
3 that the direct parallel is necessarily appropriate for a
4 couple of reasons. One reason being that southern workers
5 will not be hired in Yukon, they will be hired in the south,
6 in hiring halls in the south.

7 What I am saying is that a
8 prospective worker from the southern provinces could not
9 come to Whitehorse and obtain a job directly on our pro-
10 ject. The only people who will be hired in Yukon on our
11 project, must be resident Yukoners.

12 Secondly, perhaps before I
13 go to number two, I should draw the parallel with Alaska
14 on the first point. The workers on the Alyeska project
15 had to go to Alaska to get work on the Alyeska project.
16 In other words, they were not hired in the south, in the
17 southern 48, at least in the initiation of the project.
18 They had to be in Alaska, they had to become residents of
19 Alaska before they could get a job on the project.

20 So this created a lot of
21 influx from the south 48, which we don't anticipate to see
22 here, although we do appreciate there will be some influx
23 here.

24 Another point is that when
25 the Alyeska project was being undertaken, it was essentially
26 the only game in town, in the vernacular. When our project

1 is constructed, there will not only be construction on 500
2 miles or thereabouts of pipeline in Yukon, at the same time,
3 there will be extensive pipelining construction on the over-
4 all system in British Columbia, Alberta and Saskatchewan.
5 So this is another mitigating factor, that in fact, con-
6 struction in Yukon will not be the only major construction
7 being undertaken at the same time.

8 One other relevant point is
9 perhaps the sheer numbers in the labour force. Our peak
10 employment figures are projected in the order of 2,300,
11 say 2,500. The peak labour force involved directly in the
12 Alyeska project was 10 times that number, in the order of
13 20 to 25,000, so again, we're looking at less than a direct
14 comparison.

15 I thought these points might
16 be relevant, although as I mentioned, we don't treat them
17 within the environmental group exclusively. They're
18 treated more carefully within the socioeconomic group.

19 MR. CHAIRMAN: I believe the
20 question was what the workers did on their Saturdays and
21 Sundays, or their days off, for outdoor recreation?

22 MR. BOUCKHOUT: I guess I
23 rather strayed a bit, Dr. Hill, sorry.

24 I began to answer the question
25 by saying we do not provide rest and recreational leave
26 during the construction season.

1 There will be days --

2 MR. CHAIRMAN: Do you work
3 every day then?

4 MR. BOUCKHOUT: Pardon?

5 MR. CHAIRMAN: Do you work
6 every day?

7 MR. BOUCKHOUT: Yes, we will.

8 There will be days off, however, obviously for reasons of
9 weather constraints, or other things which may come about,
10 there will be days off. The camps will be provided with
11 full recreational facilities, including a bar within the
12 camp itself.

13 We have not the facility to
14 provide outside recreation facilities, out of the camp
15 confines. Within the camp confines, I'm sure that as part
16 of the overall recreational package, there will be outdoor
17 activities, or the equipment or whatever, provided for such
18 activities, but beyond the confines of the camp itself,
19 we have not contemplated, nor do I assume we could do so,
20 to provide any other outdoor activities.

21 MR. CHAIRMAN: How many
22 hours a day will they work?

23 MR. BOUCKHOUT: On the average,
24 I would think they'll be working 10, 12 hour days.

25 MR. CHAIRMAN: Does that
26 answer your two questions, Mr. Hutton?

1 MR. HUTTON: Yes, that's fine,
2 thanks.

3 MR. CHAIRMAN: Fine. Would
4 you like to say anything on the substance in Mr. Hutton's
5 brief, Mr. Bouckhout?

6 MR. BOUCKHOUT: Well, Mr.
7 Hutton and I have discussed the issue of recreation on
8 several occasions. In fact, in designing the recreation
9 capability study, and the impetus for establishing the study,
10 Mr. Hutton and I discussed the relevance of such inform-
11 ation to the project, and through those discussions and sub-
12 sequent discussions with other members of a recreational
13 committee, which Mr. Hutton is a member, we decided to
14 undertake the recreational capability study.

15 Within Foothills, we look
16 upon the complex of land use, aesthetics and recreation as
17 one broad topic area. Mr. Taylor is here who can speak to
18 the entire complex of all three.

19 In terms of land use, it's
20 my understanding that other studies on land use, in relation
21 to our pipeline route are being undertaken, not necessarily
22 by Mr. Hutton's group, but by a government agency, and we
23 decided in that respect, rather than duplicating effort,
24 that we would concentrate on the recreational capability
25 portions, which were not being done.
26

1 Another study, I believe, is
2 being done, and a recreation survey, and I think this is
3 being undertaken by Mr. Hutton's group, so some work is
4 proceeding on many fronts in this overall subject area.

5 MR. CHAIRMAN: Thank you.
6 Are there any other people who wish to discuss either the
7 recreational or the aesthetic issue?

8 Mr. Meyer?

9 MR. MEYER: Perhaps just some
10 brief comments from the fishery point of view. What I
11 intend to do is briefly summarize some of the conclusions
12 we have reached in our studies on recreation over the past
13 four or five years, apply them to the Yukon, and draw some
14 conclusions, or a conclusion which may have relevance for
15 your decisions.

16 Essentially through work
17 conducted, both in the Department, and through the several
18 universities in British Columbia, we perhaps have come to
19 four, what I would describe carefully as tentatively as conclusions,
20 with regard to fishery recreation.

21 First, that the demands, or
22 objectives of recreators, be they urban dwellers or people
23 in isolated communities, or more remote communities, are
24 largely similar. That in natural recreation, most people
25 are looking for approximately the same things.

26 Within this, however, or

1 within the broad context, our second conclusion is that while
2 natural recreation can be described as one category of the
3 types of recreation that people engage in, and while it has
4 a fair degree of substitutability within itself, contrary
5 to some of the proponent's studies that were done 10 years
6 ago, there seems to be a much lower level of substitutability
7 between natural recreational opportunities and more arti-
8 ficial ones.

9 Our third finding is that,
10 or general conclusion that seems to be coming out of our
11 studies, is with regard to participation, which does, in
12 fact, markedly differ; not we find, because people may
13 have markedly different desires, but because, as areas
14 become more urbanized, as population in general increases,
15 the difficulty, the hassle and the annoyances associated
16 with access to recreational opportunities increase, and we
17 get the drops in participation that we discussed yesterday,
18 I believe.

19 Our final general body of
20 conclusions are that for fishing recreation, where a man
21 goes off with a pole, the values that people seem to
22 associate with this are substantial. In a continuing series
23 of field studies that we've been pursuing for the last
24 four to five years, principally in British Columbia, we
25 find day dollar values that people associate with these
26 activities, to be ranging in the area of \$25.00 for

1 ordinary opportunities, and substantially more for special
2 opportunities.

3 We find that equivalent
4 dollar values that people associate with consuming, viewing
5 and preserving fishery resources that are recreationally
6 important to them, we're getting answers back with means in
7 the order of 2 to \$300.00 a year.

8 Having briefly run through
9 some of the general feelings we have about fishery recreat-
10 ion as an opportunity, I would like to touch on perhaps my
11 observations of what of that may be applicable to the
12 Yukon.

13 First, it's obvious that
14 considering the total amenity base for recreation in the
15 Yukon, natural, more artificial, cultural, that the amenity
16 base is narrower than it is in some of the more southern
17 areas. Consequently, the percentage importance, if you
18 like, of natural recreation, be it for fish or wildlife,
19 is proportionately more important.

20 I think this is reflected in
21 the participation figures that again we identified with the
22 Yukon yesterday for sport fishing.

23 Secondly, on the other hand,
24 it appears that the Yukon, if you consider it's still
25 largely pristine areas in close proximity to population,
26 and combine that with an observation of its topographic and

1 fish and wildlife features, could, in relative terms, be
2 characterized in an entirety as a unique recreational
3 opportunity, perhaps for Canadians.

4 I think these two conclusions,
5 taken together, may have very little to say on a site by
6 site, river crossing by river crossing basis, but I relate
7 them to you, because I think they may have some pertinence,
8 in terms of the overall standards of protection that you may
9 decide to associate with the pipeline in its entirety.

10 Thank you.

11 MR. CHAIRMAN: Thank you. Any
12 other comments on either recreation or aesthetics?

13 Mr. Klassen?

14 MR. KLASSEN: All I want to
15 do, Mr. Chairman, is to draw your attention again to the
16 paper that we tabled with you yesterday, concerning the
17 value of the wildlife resource. In there is also a break-
18 down on the recreational value of that resource.

19 MR. CHAIRMAN: Thank you very
20 much. Have you any comment on either of those briefs, Mr.
21 Bouckhout?

22 MR. BOUCKHOUT: No, Dr. Hill,

23 I think it's been covered.

24 MR. CHAIRMAN: Any questions
25 from the panel?

26 Mr. Trevor?

1 MR. TREVOR: I would like to
2 address one specific point to Mr. Hutton, and to Mr. Bouck-
3 hout, if I may.

4 Given the pipeline, and given
5 your estimation of the present campgrounds as being entirely
6 in adequate, even to meet today's situation, and very few
7 of the existing ones can be improved upon, is there any
8 merit in the idea that construction campsites might be
9 utilized with some joint action between the Y.T.G. author-
10 ities, and the pipeline people, to overcome this, given
11 also the fact that it's quite likely that the land use
12 authorities will be insisting upon quite a high degree of
13 restoration in these areas anyway?

14 MR. HUTTON: Excuse me, are
15 you suggesting that construction campsites be utilized
16 for campgrounds?

17 MR. TREVOR: Yes, after they
18 are finished with as construction campgrounds, is there any
19 merit in the idea that by joint action, they could be
20 utilized from that point on as campgrounds and the like?

21 MR. HUTTON: Mr. Trevor, I
22 believe one of the greatest problems we have with our
23 existing campground system is that we are stuck with the
24 construction campsites from the Alaska Highway, which have
25 been utilized in that manner, and they are certainly not
26 conducive to what the people are looking for in a

1 campground.

2 In most cases, they are
3 simply stripped of vegetation and a gravel base laid down,
4 and you have a wide open, unprotected area, and unscreened
5 area, and as the conventional type of campsite, I would not
6 suggest that it even be considered in any way, shape or
7 form for a campground.

8 MR. CHAIRMAN: Dr. Lacate?

9 DR. LACATE: I have a question
10 for Mr. Hutton. I've noted that you made the general
11 recommendation, as others have, that the pipeline should
12 stay close to the highway corridor, and as you know, the
13 present alignment, because it is close to the highway in
14 places, apparently it goes through three existing camp-
15 grounds.

16 If the alignment isn't
17 changed, then three replacements would have to be constructed,
18 and also your general recommendation would also suggest
19 that as a general policy, new or future campgrounds should
20 be located away from the corridor.

21 Am I interpreting this right?

22 MR. HUTTON: We at the present
23 time, do not have an established policy. We do not have
24 an established plan. It would be our intention, I believe,
25 to provide what we would call transient campsites, specific-
26 ally for the use of people travelling the highway, a spot

1 where they could pull off, in view of the highway. As I
2 said, this would compensate, to some degree, for the anxiety
3 experienced by southern travellers, and a second type of
4 campground would be a destination campground, developed
5 some distance from the highway, some distance from just
6 about anything, for the person wanting an extended stay or
7 a resident wanting a weekend type of camping experience,
8 and a third type would be a wilderness campsite, which
9 would have no access other than by foot, water, something
10 such as this.

11 MR. CHAIRMAN: Dr. Hughes?

12 DR. HUGHES: I just wanted
13 to comment on Mr. Trevor's suggestion. Are you familiar
14 with the designs proposed for construction campsites for
15 the proposed Mackenzie Highway? Some of those seem to have,
16 to my mind anyway, seem to have considerable promise for
17 further future use as campgrounds, and I don't think the
18 idea should be discarded out of hand.

19 The layout, location, layout,
20 and so forth of the camps, was designed so that with some
21 minimal changes in the layout after the camp, construction
22 camp ceased, that these could, it seemed to me anyway,
23 could make very good campgrounds.

24 MR. HUTTON: One additional
25 comment I would like to make to that is that this, in
26 fact, may be possible. I suspect it's quite feasible,

However, this would mean that if we were to be locating our campgrounds in accordance with the recreation capabilities that have yet to be defined, that in fact, we would want to be locating our construction campsites at these locations, so that they may be used later by people seeking an outdoor recreation experience.

I would suggest that perhaps that very potential may be destroyed by the construction campsite being located there in the first place, or at least it will certainly be impacted upon.

DR. HUGHES: Well, I was only suggesting that it might be worth a look, and that the idea not be rejected out of hand.

MR. CHAIRMAN: Mr. Wykes?

MR. WYKES: Mr. Hutton, I listened with great interest to your comments on some of the aesthetic values that you express for tourists travelling the highway and using the campsites, and also your concerns about noise from vehicular traffic.

However, I find it difficult, looking at the views you expressed and the existing locations of the campsites along the highway, which you referred to as the majority of them being in very close proximity to the highway now, and if one's camping in those campsites,

1 if they don't have to look at the highway, they have to
2 listen to the noise, and I was wondering if you could perhaps
3 explain to me the difference in the views you express now,
4 and what I see as actually being implemented now, and if
5 the difference is because of monetary reasons, whether you
6 might consider relocation of some of these campsites as an
7 advantage?

8 MR. HUTTON: I think that
9 what we're speaking about are degrees of disturbances.
10 At the present time, certainly with the campsites located
11 adjacent to the highway, as I say, they do offer a degree
12 of security to the transient or the travelling tourist,
13 but at the same time, we're not experiencing 24 hour con-
14 struction activity and construction noise, or 24 hour
15 continuous traffic on the highway.

16 We are looking at the
17 possible relocation of, or perhaps in fact, even the
18 consolidation of several sites into larger sites, or the
19 relocation of what we consider to be unsuitable sites,
20 but as yet, no decision has been made.

21 We are unfortunately in a
22 position of inadequate manpower and funding to follow
23 through on these recommendations.

24 MR. CHAIRMAN: Does the panel
25 staff have any questions on the two issues?

26 Mr. Chambers has.

1 MR. CHAMBERS: I'm not sure
2 who to direct this question to, it may be Mr. Bouckhout
3 would respond to it, or any one of the Intervenors, but
4 several times over the last day or two, we've had various
5 Intervenors making recommendations as to the location of
6 a pipeline in its proximity to the Alaska Highway as close
7 as possible, you know, sort of a combined corridor
8 type of thing.

9 I'm trying to visualize in
10 my mind, that kind of recommendation, and as I'm driving
11 down the highway, seeing a wide, visual pipeline there, as
12 to its aesthetically displeasing attraction, which would
13 seem to me that is what you would get if you have it
14 located as close as possible to the highway, or maybe I'm
15 just imagining it wrong.

16 I'm wondering, is there --
17 there hasn't been, it seems to me, too many expressions
18 on the aesthetics of that pipeline, except to some tonight.
19 I wonder if any of the Intervenors had a position that
20 seemed to differ from that, that as to aesthetically
21 pleasing a pipeline in its location to the highway.

22 MR. CHAIRMAN: Mr. Bouckhout,
23 possibly that could also include a comment by you or your
24 consultant?

25 MR. BOUCKHOUT: If I might
26 begin with a personal opinion, I suspect that given the

1 Alaska Highway and tourist utilization of that highway,
2 and highway corridor, that despite efforts to attempt to
3 spread out the tourist utilization, that one is still going
4 to be left with a vast concentration of tourists and
5 recreation seekers who are going to concentrate in the
6 immediate confines and environs of the corridor itself,
7 centralized on the highway.

8 In that respect, and Mr.
9 Taylor can certainly add to my comments, that that is a
10 fairly characteristic pattern in many cases, and in that
11 respect then, a pipeline right-of-way location then, very
12 close to that, what might be termed a recreation corridor,
13 would seem to me a bit out of context in the utilization
14 then by what might be termed the normal tourist.

15 MR. TAYLOR: In our recommend-
16 ations to Foothills, which was part of the original impact
17 statement, we suggested that a buffer be provided between
18 the pipeline right-of-way and the highway.

19 Our concern here was that we
20 have a fairly wide clearing, something in the order, I think,
21 of a hundred feet now for the highway. If we add another
22 120 feet to that, with some modification in land form,
23 which is likely, because the highway does traverse various
24 types of terrain, that there would be a very significant
25 visual impact related to the quality of the drive on the
26 road.

The other thing would be concern of the compressor stations and other facilities, locating compressor stations adjacent to the highway would create, in my opinion, a distraction. The noise would be a consideration, possibly safety considerations would come into it, as well as the aesthetics of the compressor station plant itself.

MR. CHAIRMAN: Mr. Chambers has a follow-up question, and I'm sure that some of our advisors would like to advise us on this, but I've been considering a scenario the last day or two on the northern end of the pipeline, where it's conceivable in the permafrost area, the design could be achieved which would satisfy most of the wildlife and drainage and ground drainage constraints, but still leave, especially in the area through the ice rich area, where the heated pipeline is scheduled to run, large, continuous areas of subsidence,

1 which would be very different from the surrounding landscape.

2 In the flat areas, it would
3 be a continuous thermokarst. In the gentler, rolling
4 areas, it would be presumably an area of subsidence, with
5 all sorts of mitigating measures on it, diversion of stream
6 or water out of the subsidence area, in general, quite a
7 different experience to the eye.

8 Without getting into the effect
9 on the wildlife, there no doubt would be some, but assuming,
10 then taking that the wildlife and the fisheries and the
11 sedimentation problems and so on could all be handled, what
12 would be your opinion on the visual aspect of that? How
13 would it greet the driver of the highway, and what would
14 his reaction to it be?

15 MR. TAYLOR: Dr. Hill, we're
16 no longer talking about parallelling the highway directly.
17 Are you suggesting that we're going to expect these
18 phenomena, and if we place this pipeline immediately adjacent
19 to the road, what would the driver expect, or is this just
20 in general, where you might have visual contact with it?

21 MR. CHAIRMAN: Well, as you
22 know in that northern section, visual contact is pretty
23 wide ranging. The density of vegetation is fairly sparse,
24 so that one can see -- one would be able to see such a scar
25 from the highway at many locations, even if it was some
26 distance from the road.

1 MR. TAYLOR: Yes, I see your
2 point. Although generally in this area, the route, at
3 least this was our recommendation, followed the old pipeline
4 alignment, which although it would create a wider scar,
5 would be essentially in the same place.

6 I would be concerned about
7 these disruptions, whether it be subsidence or erosion
8 created by the pipeline on the hillside. I think any
9 situation like that would call attention to the line,
10 would probably suggest some violation to the natural
11 environment, and as you say, in the muskeg areas, or open
12 areas, visual screening won't be as much of a factor.

13 I don't know, really though,
14 what to suggest in terms of preventing that. That would be
15 a reality, it would be something that the viewer would come
16 into contact with, and perhaps it should be interpreted,
17 I don't know.

18 MR. CHAIRMAN: I beg your
19 pardon, I didn't hear you?

20 MR. TAYLOR: Perhaps it
21 should be interpreted, so that --

22 MR. CHAIRMAN: Well, that's
23 what I'm asking for, yes.

24 MR. TAYLOR: Yes, interpret-
25 ation, right.

26 I think further to that, many

1 people would be interested in the system itself, and I know
2 many industrial facilities are not explained or made avail-
3 able to the public. I'm not suggesting that it be totally
4 exposed, or be the dominating feature. This, of course,
5 would be against my way of thinking, but there may be certain
6 sites where it would be desirable to express how the pipe-
7 line works, its function and how it was built, so it becomes
8 an interpretative feature in itself, and it's a reality in
9 terms of resource development of this area.

10 By that I mean, it may not
11 be always desirable to hide compressor stations or camou-
12 flage them, or paint them green in that way, because they
13 are very interesting to many people.

14 MR. CHAIRMAN: I believe Mr.
15 Chambers has a follow-up question. It's answered.

16 Could our advisors help us
17 out on the aesthetic issue any more?

18 MR. KLASSEN: Our primary
19 responsibility, of course, as we've said maybe too many
20 times here, is wildlife.

21 When we say that in the three
22 specific areas, where we've made recommendations concerning
23 the routing of the pipeline, that we would like to see it
24 closer to the highway, perhaps what we've said has been
25 misconstrued, but we haven't been giving figures as to the
26 closeness to the road.

1 The only comment that I can
2 make is that perhaps by permitting natural vegetation to
3 come in as much as possible, and by perhaps contouring the
4 right-of-way so that it doesn't stick out as a straight
5 line, the visual impact might be reduced.

6 MR. MEYER: Just a brief
7 comment, Mr. Chairman. In a number of occasions in our
8 report, I believe you will find us referring to a potential
9 conflict where compressor stations happen to coincide with
10 fishing sites. If that was consistent with proximity to
11 highway, then there would be a potential noise conflict
12 there.

13 MR. CHAIRMAN: Thank you.

14 MR. MOSSOP: With your
15 permission --

16 MR. CHAIRMAN: Would you
17 identify yourself, please?

18 MR. MOSSOP: With your per-
19 mission, perhaps I can change hats here for a minute, and
20 talk as Vice-President of the Conservation Society, Dave
21 Mossop is my name.

22 MR. CHAIRMAN: Thank you.

23 MR. MOSSOP: As I'm occupy-
24 ing the seat of the witness called by the Conservation
25 Society, perhaps that's appropriate.

26 The Conservation Society did,

1 in fact, generate a policy on how close they wanted the
2 pipeline to the roadway, and as you may be aware, have in
3 record, their recommendation that the pipeline be routed
4 as close as possible to the Alaska Highway right-of-way.
5 Following which we had discussion among ourselves about
6 what that means, and one of the things that we are not con-
7 vinced about, is the fact that seems to be accepted, that
8 the two routes are mutually exclusive.

9 If there's been discussion
10 on that already, perhaps I missed it.

11 MR. CHAIRMAN: The two which,
12 the two routes?

13 MR. MOSSOP: The two rights-of-
14 ways, the Alaska Highway right-of-way and the pipeline
15 right-of-way are mutually exclusive. In other words, they
16 can't occur on the same piece of land?

17 MR. CHAIRMAN: Yes, we've
18 gone into that, except in special cases the proponent would
19 prefer them to be separate.

20 MR. MOSSOP: The other quest-
21 ion that perhaps the gentleman with Alaska experience
22 could address, is the width of the right-of-way which we
23 hear rumours, in Alaska, was much narrower in places than
24 the hundred and some odd feet that's going to be used in
25 the Yukon Territory.

26 MR. ROBERSON: Mr. Chairman,

1 yes, I can answer that. Basically because of national
2 U.S. legislation, there had to be a modification early in
3 the stage to even allow the width that was used. Fifty-
4 two feet basically was what was used. Anything beyond that
5 required, in this case, authorization from either the State
6 or federal authorities for that land, river crossing and
7 mini zones, deep burial, sidehill cuts and such required
8 considerably more, and up to 250 feet, I think, is as wide
9 as I'm acquainted with.

10 On very unique special occa-
11 sions, for a matter of a few hundred feet, they were as
12 narrow as 35 feet, but it meant trying to work in a log
13 jam also to accomplish this, and having watched it occur,
14 I can say that it is exactly that. It does create a very
15 difficult situation when less than 52 feet was used, it
16 just makes a very unusual condition.

17 It's difficult, I'm sure, for
18 most of you to appreciate the equipment and whatever, the
19 spoil pile, all the things utilized in this process, but
20 it does take considerable space, I can assure you.

21 MR. MOSSOP: Has the applicant
22 addressed the possibility of a narrower right-of-way, using
23 part of the Alaska Highway right-of-way? In other words, a
24 50 foot right-of-way to Foothills, with the right to use
25 the Alaska Highway right-of-way along with that?

26 MR. BOUCKHOUT: No sir, we

1 have not. There are a couple of implications here, and one
2 being that the terrain on either side of the Alaska Highway,
3 although perhaps conducive to the highway, is not necessarily
4 conducive to the pipeline.

5 Additionally, I might add
6 that we have applied too for a working right-of-way of 120
7 feet. I have stated on several occasions that not neces-
8 sarily 120 feet will be cleared. The rationale for the
9 selection of this width was that we wanted the ability to
10 clear up to that width in various areas where we felt it
11 was required; the feeling by the construction department
12 is that in general, we certainly would not clear more than
13 we felt we required.

14 We were looking, in that
15 respect, more in terms of on the average, probably something
16 in the order of 90 feet.

17 MR. MOSSOP: In general,
18 though, American builders use a narrower --

19 MR. BOUCKHOUT: Well, I think
20 there are probably other mitigating factors as well. You
21 will appreciate that on the American side, they actually
22 built from a pad, in a good deal of the case. I'm not sure
23 that the actual 50 feet includes the entire spoil pile,
24 plus all the other attendant portions of land that might
25 have been necessary.

26 MR. ROBERSON: I think I did

1 state earlier that there were a number of situations which
2 went well beyond the 50 feet. The 52, in fact, rather than
3 50, from one side to the other, particularly including a
4 driving surface, a hard surface which allows a much greater safety
5 factor, in terms of manoeuverability of vehicles, than let's
6 say swampy terrain.

7 Were I to take the trade, I
8 think I would go for slightly wider and not have this road
9 situation, in that you're going back to a somewhat natural
10 terrain. Alyeska's right-of-way throughout is basically
11 a two lane driving surface, plus the pipe, and they cannot
12 put heavy equipment over the pipe, D-8 and D-9 Caterpillar
13 tractors and such, cannot drive over the pipe in a normal
14 burial situation, so access to both sides for maintenance
15 is necessary.

16 I think this is part of the
17 concern for the width, and I presume the gentleman on my
18 right here, who is more acquainted with the actual physical
19 aspect of it, might comment further.

20 MR. ELSTON: My name is Dean
21 Elston, I've spoken here before, Mr. Chairman.

22 For the construction of a
23 large diameter pipeline, heavy wall, the likely situation
24 is to have approximately 90 feet of right-of-way. You
25 can come into 70 feet, and in cases, if you have access,
26 at various fairly frequent spots, so you don't have to

1 circulate your traffic, which is necessary for construction
2 through the working zone.

3 But if necessary, well you can
4 come into a 50 foot, 50 would be all I'd like to come
5 into. It can be done on 35, but it creates a real bottle-
6 neck in your construction, and all I can say is that some-
7 times, by endeavouring to narrow and work off a narrower
8 pad, you sometimes disturb the environment worse than you
9 do if you widen out the pad and can work in a workmanlike
10 manner.

11 MR. ROBERSON: I might
12 pursue that just slightly, in that often Alyeska was
13 cited for having their spoil-off of their allowed right-of-
14 way, and I do mean often, so that might be a clue. I was
15 in the business of citing them, so I can guarantee it was
16 done, and the access point that Mr. Elston has brought up,
17 the access roads of Alyeska in a few cases, were as close
18 together as a half a mile.

19 I think the trade-off involved
20 is you might very well be creating more access, in fact,
21 virtually for sure creating more access roads necessity for
22 such, by that narrowing. So in terms of the thing that I
23 think has been advocated here by several gentlemen, come
24 over and have a visit, if nothing else, because I think
25 really there are a great many things that a visit to our
26 operation might clarify for you in terms of what the results

1 are, and I make that offer, I'll be glad to show anyone
2 around our neck of the woods, and the lower part of the
3 pipeline.

4 MR. MOSSOP: Yes, the only
5 reason I was addressing narrowness was this aesthetic
6 problem of a huge swath through the country. If we could
7 incorporate a narrower strip into the right-of-way of the
8 Alaska Highway, and use the Alaska Highway for turning
9 your vehicles around, et cetera.

10 I'm satisfied, thank you.

11 MR. TREVOR: Mr. Chairman,
12 just one point of clarification, if I may. You talked
13 about width of 50, 52 feet. Was that also for the buried
14 sections of the Alyeska line, or was any extra width
15 required on the buried sections?

16 MR. ROBERSON: The main
17 line buried sections, the normal buried sections on flat
18 terrain, were accomplished in that particular width, and
19 it did create, in that there was a parallel highway, or
20 a haul road, one or the other, a cycling pattern and
21 generated the access roads.

22 In any kind of slope terrain,
23 that width increased, and I mentioned the widest that I
24 can recall is 250 feet. that was authorized, and I
25 suspect there were zones that were wider, I just don't
26 have them in mind at this moment.

So in areas, and if it's impossible to incorporate the pipeline into the right-of-way,

1 or to incorporate a narrower pipeline right-of-way into
2 the side of the Alaska Highway right-of-way, then we would
3 prefer a screen.

4 MR. CHAIRMAN: I think I'll
5 close off questioning on that subject now, and go on to the
6 last topic for today, maybe we'll even end up the week
7 caught up.

8 I understand there are several
9 proposals, special areas, special species and so on, that
10 people would like to bring to our attention. I suggest that
11 I go down the table of Intervenor and ask you to discuss
12 these with us, and point them out to us, and if possible,
13 supply us with written documentation if you haven't already
14 done so, on the special points.

15 Mr. Romaine, I guess is
16 first.

17 MR. ROMAINE: Mr. Chairman,
18 Mr. Meyer, I believe, will start off by identifying these,
19 and then Mr. McNally will also add some information.

20 Before we leave the topic,
21 however, I wouldn't mind a summary question on the whole
22 aspect of specific problem areas, so I'll leave that to the end

23 MR. MEYER: My purpose is
24 from a point of view of fishery users, to identify only
25 one further special area, then pass the ball to my colleague,
26 who I believe has some more explicit biological concerns in

1 other areas.

2 The final area that was
3 touched on, but not specifically identified, was the Teslin
4 area, and our concern again there, is that from a use point
5 of view, this area has features of all of the user groups
6 that we previously identified; tourists, residents, sub-
7 sistence, native fishery, and commercial fishery.

8 As a result, the subsistence
9 fishery itself is important for both freshwater species and
10 Chinook, with activity centred around Teslin and Johnson's
11 Crossing, and again we have the usual potentials for inter-
12 ference with, or conflict with construction camp personnel.

13 I think that briefly, with-
14 out going over the same thing again and again, is all I
15 would have to say, except for one final comment which per-
16 tains to much of the controversy today, but some of the
17 prior discussion on Teslin serves to provide an opportunity
18 to put this concern into the record.

19 We've observed in the hearing,
20 a number of fish and wildlife concerns, sometimes conflicting
21 with respect to pipeline routing. I recall Mr. Bouckhout's
22 comment, "Damned if he does and damned if he doesn't", and
23 this will obviously necessitate, at some point, a judgment
24 by yourselves or by others, on which values will be pro-
25 tected, and to what degree.

26 The proponent responsible to

1 his own users, the gas consumers to the south, has pointed
2 out that they too, have a responsibility to keep capital
3 costs to some reasonable level, and there's been a dialogue
4 of protective recommendations versus some of the costs
5 that might be associated with them.

6 These concerns, in our view,
7 the need to identify, measure and then balance these environ-
8 mental values against cost will, I suspect, be a central
9 concern in your deliberations.

10 I should like to briefly
11 examine, in that light, Mr. McNally's earlier request on
12 Teslin, which was for a realignment, and if my recollection
13 was correct, this realignment was guestimated to maybe
14 cost something in the area of 13 million dollars, is that
15 fair?

16 MR. BOUCKHOUT: At Teslin?
17 Squanga Lake, you're speaking of.

18 MR. MEYER: At Squanga yes,
19 pardon me.

20 MR. BOUCKHOUT: I pulled that
21 figure off the top of my head.

22 MR. MEYER: Yes, I'm not try-
23 ing to fix the figure, pardon me.

24 Okay, if I may continue --

25 MR. BOUCKHOUT: Certainly,
26 certainly.

1 MR. MEYER: Okay, thank you,
2 I wasn't trying to nail you on the figure. This is a
3 seemingly considerable sum, I think, to anybody sitting in
4 this hall, and the implications of this earlier exchange
5 would seem to be that the Commission would have to decide
6 whether it could identify fishery and perhaps wildlife
7 values to justify such an additional expenditure.

8 We view this decision some-
9 what differently, however. Looking at the actual costs
10 to the proponent's customers, and using very rough ball
11 park figures, that we're prepared to be corrected on,
12 because we didn't bring the right books with us, Mr.
13 McNally's 13 million dollar request would appear to cost
14 consumers in the south, perhaps something in the order of
15 a quarter of a cent per thousand cubic feet of gas
16 consumed.

17 It's our view, Mr. Commission-
18 er, that this approach, the weighing of actual costs
19 incurred by gas users, against the fish and perhaps wild-
20 life benefits that could be maintained for residents
21 through appropriate protective measures, is the approach
22 that may prove most appropriate in your deliberations.

23 Thank you.

24 MR. CHAIRMAN: Thank you.

25 I think I'll just comment on that very briefly.

26 I think all of the panel,

1 in their various roles in environmental management, have
2 come up against the problem that you point out. We have
3 all come to terms with it in some way, individually, and
4 now as a panel, we'll probably have to come to terms with
5 the problem collectively.

6 The process of coming to
7 terms with it, I'm sure we will find a way, but my exper-
8 ience is that the usual economic analysis methods do not
9 hold up very well.

10 Mr. McNally?

11 MR. MCNALLY: Thank you.

12 Just a quick one. I see
13 the time is flitting by, by the clock on the wall, and your
14 comments with reference to the presentation are quite
15 clearly taken. However, it does present me with a couple
16 of confining constraints, and if you will allow me a touch
17 of latitude in presentation, perhaps I can speed up my
18 comments and register my main concerns quite directly and
19 I shall, indeed, file explicit comments to you so as you
20 will have it as reference.

21 As I had indicated earlier,
22 we have specific data to each site of which we are con-
23 cerned, and we have individual statements on each, and a
24 very brief summary comment at the end of each one, which
25 can be used for your reference or the reference of the
26 Board in any particular area.

1 Just speeded up, if it is in
2 order, I will branch out just a touch generally to cover a
3 bunch of topics very fast, and then I will just read through
4 a series of explicit comments to just a few water crossings,
5 is that in order?

6 MR. CHAIRMAN: Fine, your
7 co-operation is appreciated.

8 MR. McNALLY: A quick thing
9 then, generally, through the proceeding days, we have had
10 discussion, generally on siltation erosion and vegetation.
11 By and large, I have withheld comments from those parti-
12 cular subject topics, as they've been handled in a very
13 broad and far-ranging discussion, which is excellent.

14 With reference to stream
15 crossings themselves, we have touched upon it with refer-
16 ence to each individual stream, we have not in particular
17 detail.

18 I would just like to register
19 very clearly, that it's a common practice throughout British
20 Columbia, not so much in the Yukon because frankly there
21 aren't that many pipelines in place, but it's a common
22 practice within British Columbia for the addressing of
23 pipelines, that detailed discussion of siltation, erosion
24 and vegetation concerns at each pipeline crossing are gone
25 into in extensive detail, and that measures are taken with
26 a great deal of concern, to see that siltation at each

1 site is minimized, to see that erosion at each site where a
2 crossing occurs does not occur, and to ensure that vegetat-
3 ion is put on adjacent to the crossing, in as short an
4 order as possible, and to ensure that the total elapsed
5 time from right-of-way clearing to final revegetation is
6 collapsed into as physically short a period as possible in
7 the mitigative sense.

8 With that in mind, I will
9 quickly move onto the specific problem areas. From my
10 viewpoint, as a person involved in evaluation of pipelines
11 on a regular basis, the total pipeline concept presents to
12 us, while it's rather massive in magnitude, presents to
13 us, 79 very special and very real problem areas.

14 In view of the need for
15 brevity at this time, I have no intentions of covering
16 all of them. I just wish to reinforce and restate a very
17 strong concern for each and every one of them, for the
18 unique problems that exist at each, in the sense of variat-
19 ion of speciation, and physical problems that are at
20 each one.

21 With that in mind, I'll let
22 you off the hook and not run through all 79 of them, and
23 quickly shorten the list that I had on hand.

24 The first one, just to
25 quickly identify it, was the White River, which we have
26 identified on the basis of the data that we have on hand to

1 date, as critical with reference to fish stocks. Particularly
2 noteworthy for the presence and spawning of Chum salmon in
3 the system, and a potential for sources of groundwater in
4 the area, hence its relation to overwintering.

5 The Koidern River,
6 which has not, to date, really been addressed. Identified
7 as particularly critical to fish stock. A concern with
8 the presence of Chum salmon in the system, the spawning of
9 Arctic greyling in the system. The excellent spawning and
10 rearing habitat in the stream for several fish species.

11 The extensive overwintering
12 habitat. The groundwater source areas, documented at the
13 confluence of the Koidern and the White Rivers.

14 To touch again quickly on a
15 rather extensively discussed topic, which has gone on in
16 the past, but which really never extensively dealt with
17 the fisheries values.

18 A quick comment on the
19 realignment problems with reference to the Pick Handle
20 Lake complex. If you will indulge me for a moment of
21 diversion, the original alignment, which I understood was
22 to follow the existing Haines-Fairbanks pipeline location,
23 adjacent to the road, is from a fisheries viewpoint,
24 preferable on the first round.

25 The reason for that in the
26 initial alignment is, in our minds obvious, because of the

1 existing disruption which has occurred. The only alteration
2 which I would suggest from it, would be the realignment in
3 the section, which would ensure that the new pipeline is
4 located uphill of the roadway, to allow the use of the
5 roadway as a physical buffer for any disruption, to retard
6 siltation into the Pick Handle Lake complex.

7 The reason that I am rather
8 concerned about this potential alignment, is that the
9 approach grades which cross the Koidern, going up onto
10 the hill, for the raised section of the pipeline, go through
11 an area of rather steep grades, of rather difficult
12 material. Our initial analysis has indicated that the
13 disruption which will occur with this will be rather
14 extensive in comparison of other installations in the area.

15 The effects on the Koidern
16 and the White will be very extensive. On the other hand,
17 going down the slope, we'll be crossing through Wolf
18 Creek and Long's Creek, which again will have rather
19 significant problems, due to the actual alignment, and the
20 actual terrain that it's going through, a rather difficult
21 spot.

22 The overall quick summation
23 of it, the problems with construction on the uphill/downhill
24 side; what appear to be problems which will result from
25 permafrost that's in the area and attendant construction
26 problems; the problems with disruption of drainage and

1 groundwater areas, combined with the contribution to the
2 Koidern- Pick Handle complex, suggest that the alternate
3 which goes over the hill, is not necessarily an easy
4 choice from a fisheries viewpoint.

5 Moving on very quickly,
6 Quill Creek comes to mind. It has been identified as a
7 problem because of what I believe is an abandoned tailings
8 pond, I believe that's the current status of the mine
9 itself. The pond now is right adjacent to the existing
10 alignment.

11 It appears that it may very
12 shortly be causing a problem to the existing stream the
13 way it's located now. Work within the alignment will have
14 a very high probability of potentially draining that tail-
15 ings pond.

16 I would suggest that a second
17 look should be made at that location adjacent to the pond
18 itself.

19 The Kluane River, we really
20 have not really addressed in depth anywhere along the
21 line, as it's parallel to the system, rather than crossed
22 by the pipeline system itself. However, there are a number
23 of tributary streams which go into the Kluane; the mouth
24 of each of which have been identified already as relatively
25 important Chum spawning areas.

26 The reason that it's important

1 is that there will be contributory effects from each of
2 the small streams going into the Kluane, and they will
3 impact right at the mouths on each of those spawning areas.
4 It's a unique characteristic of the Chum salmon, that they
5 seem to like the up-welling areas often associated with the
6 mouths of similar streams like this. It's rather indicative
7 that that's where they're located, and why they're located
8 there.

9 Hence, the concern of the
10 accumulative impact of siltation in each of the small
11 streams, as they contribute into the Kluane and the result-
12 ant impact on the Kluane itself.

13 With reference to proposed
14 realignments which have everyone tickled pink, I wish to
15 propose review of another one, specifically between the
16 Pine Lake - Aishihik River section. Currently, the way
17 I have the alignment viewed before me, part of the time
18 the alignment is between the highway and the Dezadeash.
19 Part of the time the alignment has the highway as a buffer.

20 I would propose that consider-
21 ation be given to the proposed realignment of this section,
22 so that it is entirely on the alignment north of the high-
23 way, which would allow the existing highway to be a con-
24 tinuous buffer between Pine Lake and Aishihik, between
25 the proposed pipeline construction and the Dezadeash
26 River. In terms of the alignment there, it is relatively

1 a direct location. It's initially a switch from one side
2 of the road to the other, for an extended period. I
3 believe it's most definitely worthy of reconsideration.

4 Moving on quickly, the Takhini
5 River we have identified as critical to fish stocks. It's
6 identified as high fish productivity, high overwintering
7 potential, documented migration spawning and rearing of
8 Chinook salmon. In addition, the particular Takhini River
9 crossing is of interest from a physical point of view.

10 The crossing, as proposed,
11 goes through relatively high banks, which appear to be
12 sloughing. Containment of that bank through construction
13 and after construction, initially indicate that they have
14 potentially high problems, which impact on a particularly
15 interesting resource to us.

16 In addition, a short period
17 -- a short distance away, I understand it's approximately a
18 third of a mile upstream -- downstream, sorry about that,
19 roughly a third of a mile downstream, there is a small,
20 sloping bench which leads right into the river, which from
21 a physical access point of view, simply from the point of
22 laying a pipeline itself, strikes us as a much easier
23 access. As far as long term disruption within the stream
24 itself, I suggest it also be considered as a rather useful
25 alternate.

26 With reference to the Yukon

1 River, I spoke generally a few minutes ago when we were
2 addressing the Ibex. I identified generally the concern
3 at the Yukon River crossing with reference to the
4 alternate downstream.

5 Just to pick up quickly on
6 general comments on the Yukon itself, it too has been ident-
7 ified as critical to fish stocks. It does have good over-
8 wintering capacity, relatively high productivity, it's a
9 migration, spawning and rearing section for Chinook salmon.

10 The probability of facilitated
11 harvest of game fish by pipeline personnel in the vicinity
12 of the pipeline crossing is an area of concern. Spawning
13 and rearing of resident fish species are identified within
14 the system.

15 The Teslin River has been
16 similarly identified as critical to fish stocks. It's
17 a migration, spawning and rearing area for Chinook salmon.
18 Spawning migrations of Arctic greyling out of Teslin Lake
19 occur in the spring. There is a probable interference
20 with domestic and Indian food fisheries.

21 There will be created a
22 facilitated harvest of game fish.

23 Nisutlin Bay,
24 identified as critical to fish stocks. The migration
25 of Chinook salmon have been identified through the Bay,
26 en route to spawning grounds in Nisutlin River.

1 Spawning of broad whitefish occur in the Nisutlin River.
2 The Bay presents excellent rearing capacity for several
3 fish species, the productivity of the bay is high. Again,
4 facilitated harvest of game fish is certain.

5 There will be an interference
6 with commercial, domestic and Indian food fisheries.

7 The Morley River and Morley
8 Lake, the concern identified again with reference to migrat-
9 ion, spawning and rearing of Chinook salmon. Documented
10 overwintering capacity for several fish species, high fish
11 productivity.

12 The Swift River, identified
13 as critical to fish stock. Migration, spawning and rearing
14 of Chinook, utilization by spring spawning fish species,
15 high fish productivitiy.

16 The Swift, I identified
17 earlier, with reference to a concern with realignment, I
18 identify it again. I am concerned with the meandering
19 river itself, the potential impact of the three crossings
20 which have been identified to date.

21 From initial reviews, there
22 is an apparent tendency that the river, if crossed in the
23 manner identified, will have several meander patterns cut
24 off in the potentially near future, due to erosion problems
25 associated with the meandering nature of the river itself.

26 I request that a serious look

1 be taken at the realignment and reassessment of the align-
2 ment in this particular route.

3 In short, thank you very
4 much, Mr. Chairman, for indulging me in my rather rampant
5 review of these streams. I do mean it very seriously when
6 I say I am explicitly concerned with 79 explicit water
7 bodies. With that, I leave it to you.

8 MR. CHAIRMAN: Thank you.
9 I didn't have a chance to keep up with you and write down
10 all those concerns, and I wouldn't expect that Mr. Bouckhout
11 did either. How available is the document you were reading
12 from?

13 MR. MCNALLY: This will be
14 available to you at the end of the proceedings. I'm just
15 using it as a working document while we're here.

16 I intentionally did it, in
17 that as I understood the terms of the way the Board was
18 being run, you are not asking for a written submission, so
19 we have been using it as a working document. I literally
20 have the draft in my hands in front of me, and I am working
21 off it.

22 You will have a copy at the
23 end --

24 MR. CHAIRMAN: Yes, I am just,
25 as Chairman, considering how to enable Mr. Bouckhout to
26 respond to some of those. I am not going to ask him to do

1 it tonight, but I was considering using the piece of paper
2 as a mechanism to get the information to Mr. Bouckhout, as
3 in interests of procedure, I think what I'll do is go down
4 the transcript will not be available for a few days.

5 MR. MCNALLY: A quick thing,
6 I'm afraid I don't have written all my comments either,
7 because I modified things a little bit to get it through in
8 a hurry for you. The general notes that I put together, I
9 can get a housecleaned copy to you in short order, and it
10 would be of use to Mr. Bouckhout, Monday, if it's acceptable.

11 MR. CHAIRMAN: Fine, and then
12 that I would like to put on the record his comments
13 if Mr. Bouckhout would like to put on the record his comments
14 at that time, fine.

15 MR. MCNALLY: Right, just a
16 statement on unique areas of discussion which we haven't had
17 quick comment. In the past, when I indicated areas of dis-
18 cussion from my own personal presentation, I tried to set
19 them in such a way that it would generate discussion and be
20 rather broad reaching.

21 question, as I say, and it would be just one question, but
22 it deals with the

23 As I tried to indicate this
24 time, I intentionally axed it, so that I could get the
25 point across, and kill discussion. I had also indicated

26 earlier I was not presenting these in the adversary sense,
27 but as a recommendation, a point of view.

28 had today regarding the

29 In closing, most definitely
30 course, the discussion of the proposed alignment,
31 it will be available as quickly as I can for Mr. Bouckhout.

32 and proposed alignment
33 In addition, the entire data that I have available, will
34 difficult, at this time
35 of course, be available to him.
36 the environmental impact

1 MR. CHAIRMAN: Fine, okay.

2 In interests of proceeding, I think what I'll do is go down
3 the list. I know Mr. Romaine has a comment to make, and I
4 won't ask Mr. Bouckhout to respond, but I'll ask him to
5 respond as he wishes later on, and we'll try to get all of
6 the issues on the table at least tonight.

7 Mr. Romaine?

8 MR. ROMAINE: Well, Mr.

9 Chairman, I did have a question that was just one question
10 that I would like to raise on the whole topic of specific
11 problem areas, and I know we're extending your agenda
12 here, but we would also like to read into the record, a
13 statement on unique species and areas which we haven't had
14 the opportunity to introduce yet. It's just a statement
15 that we would read in.

16 But I would like to ask my
17 question, as I say, and it will be just one question, but
18 it deals with the area that has been under discussion
19 today.

20 Basically, this is to Foot-
21 hills, Mr. Bouckhout. In view of the discussion that we've
22 had today regarding the specific problem areas, and of
23 course, the discussion on the existing proposed alignment,
24 and proposed realignments, would you agree that it's very
25 difficult, at this time, to come to grips with, or to what
26 the environmental impacts for such areas might be, and

1 whether or not an acceptable solution to meet all the con-
2 cerns that have been expressed to date, can indeed be
3 found?

4 MR. BOUCKHOUT: That, Mr.
5 Romaine, depends on your definition of difficult. We
6 feel that given what pipelining is all about, and given
7 the study program that is currently underway, that we can
8 come to grips with these problems. Certainly it's difficult.

9 One cannot pull out of one's
10 pocket an immediate decision in all cases. Some problems
11 require more study and more consideration than others.
12 Many of the considerations, for instance, that have been
13 discussed by Mr. McNally, relate exclusively to river and
14 stream crossings.

15 We've undertaken to expend
16 considerable effort on the evaluation of river and stream
17 crossings, and I think, given standard procedures for most
18 crossings, and specific additional procedures in method-
19 ologies and protection measures in other crossings, that
20 really river crossings, per se, are not that great deal of
21 a concern.

22 MR. ROMAIN: Just to belabour
23 the point, and I appreciate your answer, and you may feel
24 you've answered it, but I'm a bit still confused. Let me
25 ask it again.

26 Would you agree that it's

1 difficult at this time, at this point, right now, to come
2 to grips with the environmental impacts, what they might be
3 for these areas, and whether, you know, you sort of see an
4 opening for an acceptable solution to the problem?

5 What I'm really after is the
6 time factor here.

7 MR. BOUCKHOUT: Well, it's
8 with respect, Mr. Romaine, to precisely what stage one feels
9 we should be at now. We have said before in our preliminary
10 design stage, that detailed design is something which
11 follows, and I feel that between now and during the preparat-
12 ion of detailed design, it will be possible to confront
13 these problems and resolve them.

14 MR. ROMAINE: Thank you,
15 Mr. Bouckhout.

16 MR. CHAIRMAN: Would you like
17 to read your statement on unique species?

18 MR. ROMAINE: Yes, I'll turn
19 it over to Dr. Oswald.

20 DR. OSWALD: Yes, at this
21 point in time, I would just like to make a brief, to express
22 the D.F.E. view on rare and unique species, by saying my
23 statement to the panel.

24 There are at least five
25 species known in the Kluane National Park area, the northern
26 boundary of this park, to be rare and unique species. More

1 attention has been paid to this area in the past, and we
2 know more about the plants in that area; therefore, I would
3 like to reiterate the statement that I made earlier, con-
4 cerning the lack of baseline data that we have on vegetation,
5 either by Foothills or by D.F.E. or by anyone else.

6 In summary, there is a definite
7 requirement for a detailed assessment of the vegetation,
8 and all the ramifications associated with it, along the
9 proposed Alaska Highway, as well as along all the proposed
10 corridors, and this investigation must precede the final
11 or specific alignment of the corridor, and the location of
12 ancillary features.

13 Thank you.

14 MR. CHAIRMAN: Thank you
15 very much.

16 Let's see, is that the D.F.E.
17 submission then, we can pass on to Mr. Mossop?

18 Right, thank you, Mr. Romaine.

19 Do you have any comment on
20 rare and unique species, or special and unique problems,
21 Mr. Mossop?

22 MR. MOSSOP: Not at this time,
23 no, at least not with this hat on.

24 MR. CHAIRMAN: I get confused
25 with the no hat there.

26 Mr. Klassen?

1 MR. KLASSEN: Yes sir, we
2 have a few points. Mr. Archibald's concern is with fur-
3 bearers, and that they fall under this particular category.

4 Species usually identified
5 as being most susceptible to disturbance include sheep ,
6 grizzly bear, caribou, large raptors and swans. Common
7 denominators of these species are that they are highly
8 observable, for at least part of their life cycle; that
9 they are of international importance; that they are of
10 aesthetic or consumptive importance to a great number of
11 recreationally oriented people.

12 For these and other reasons,
13 a considerable amount of research has been done on each of
14 these species, and specific concerns relating to effects
15 of development on particular aspects of their life histories
16 have been identified.

17 By comparison, most fur-
18 bearers are corpuscular and nocturnal in activity
19 patterns, solitary by nature, and secretive by design.
20 As such, very little is known about their life histories,
21 particularly concerning vulnerability to disturbance.

22 For example, there is mounting
23 evidence to suggest that for most furbearers, disturbances
24 or development during the critical pre or post-natal period,
25 may result in either direct mortality, or abandonment of
26 traditionally used denning areas, and therefore, a

1 subsequent decrease in carrying capacity.

2 The Wildlife Branch requests
3 that the Environmental Review Panel recognize that we are
4 concerned with the effect of development on species other
5 than the ones that we have discussed today. It is only the
6 dearth of available information that precludes from delineat-
7 ing specific concerns of these other species.

8 I'd like to point out a
9 couple of other concerns that we have under this topic
10 heading. On Tuesday, Dr. John Theberge presented a paper
11 that he and Mr. David Mossop prepared, which forms part of
12 our submission here, beginning on Page 114 in the brief
13 that you have. The title of it is "Systems for Preservat-
14 ion of Critical Lands in Yukon Territory, I.B.P. Sites,
15 Parks and Wildlife Areas".

16 Dr. Theberge referred to it
17 briefly earlier this afternoon, and I would like to say
18 that he appeared before the Lysyk panel on Tuesday, and
19 presented that paper there, and gave verbal testimony
20 subsequent to that presentation. And in the interests of
21 saving time, I wonder, since there is liaison between your
22 panel and the Lysyk panel, could you have the transcript
23 of his evidence before that panel considered as evidence
24 before this panel, so that he need not repeat that at
25 this time?

26 MR. CHAIRMAN: Fine, yes,

1 we have access.

2 MR. KLASSEN: Thank you. I
3 would then also like to point out some areas of winter
4 range that are of considerable concern to us. We have so
5 far identified critical moose range in the Eagle Bay and
6 Morley Bay areas of Teslin Lake. These are areas that are
7 crossed, or at least in close proximity to the Alaska
8 Highway Pipeline route, and two other winter ranges that
9 we are concerned about are those of Mule Deer and the
10 reference to that, if you want to make note of it, to
11 save my going in detail on it, is on page 47 of our brief,
12 that's for Mule Deer; and for elk winter range, the refer-
13 ence is on page 50.

14 The reference to the critical
15 moose winter range is on page 9. Two other points. Dr.
16 Hoefs would like to make a few comments on the Cassiar
17 Mountains and the sheep range there, and then Mr. Mossop
18 wearing his Wildlife Branch uniform, will make a few comments
19 on bird refuges and sharp tailed grouse.

20 MR. CHAIRMAN: Thank you.

21 DR. HOEFS: Mr. Chairman, I
22 am going to do this as quick as possible. On page 46, we
23 pointed out that another potential problem area exists in
24 the Cassiar Mountains with respect to sheep, but we haven't
25 got enough information about it now to make specific
26 recommendations.

1 We do know that there are
2 sheep in the mountains, essentially between Mile 406 and
3 458, pipeline, pipeline miles, and the specific area of
4 concern is between Miles 410 and 420, which is also --
5 there is also a proposed compressor station site at Mile
6 414.2.

7 These sheep are Stone sheep,
8 and they may well be the only true Stone sheep we have in
9 the Yukon. We know that Stone sheep have been shot in the
10 area, and they have been observed from the highway, and
11 they have also been observed to cross the highway, but we
12 have not had time yet to do a detailed survey on the area.

13 Also, in comparison to the
14 other problems, we discussed like Sheep Mountain and Ibex.
15 This area has goats, and it has a very good mountain cari-
16 bou population, so even though the sheep density is much
17 lower, the ungulate density may be just as high as in the
18 other problem areas that we discussed. But as I mentioned,
19 we have at this time, not enough information to make
20 specific recommendations.

21 Thank you.

22 MR. CHAIRMAN: Thank you.

23 MR. MOSSOP: The discussion
24 that you'll find in our written submission, relative to
25 wildlife special areas or refuges or what not, is perhaps
26 not as specific as it could be. We gave it more as an

example of the kinds of facilities or social institutions, if you like, that are taken for granted in other jurisdictions, which are not in place in the Yukon Territory, which are considered necessary features of the whole process of managing wildlife.

The philosophy of special areas for wildlife is simply that, that there are areas which wildlife managers can recognize, on which the sole, or at least the prime land use should go to wildlife, areas that can be recognized, and we are in the process, in the Yukon Territory, of recognizing and learning to recognize these areas.

The fact of the matter is that the Yukon Territory, with regards to wildlife populations, as you may know is in a holding pattern, and has been in a holding pattern since the turn of the century. The mandate to manage wildlife in the Yukon Territory, is in the hands of the Territorial Government, whereas the habitat on which these creatures depend, is in the hands of another government.

The absence of areas in the Yukon, on which the sole land use goes to wildlife is regrettable, and is the gist of the written comments that you'll find in our brief.

The point, I suppose, is that we feel we would be professionally negligent if we

1 didn't point this out, and advise this panel, that if wild-
2 life -- if the wildlife resource is to be considered in a
3 decision such as yours, that your decision should be made
4 very carefully, if at all.

5 Sharp tailed grouse, I suppose,
6 are just again another example of a creature that lives in
7 the Yukon Territory, about which we know very, very little,
8 a creature that is, if you like, unique in the Yukon Terri-
9 tory, because they don't occur everywhere. They occur in
10 very localized populations, very small populations, and
11 perhaps isolated populations, populations about which we
12 know very little, and yet are huntable populations at pre-
13 sent, with the present population, human population in the
14 Yukon Territory.

15 With those few things that we
16 do know about them, that I just mentioned, we can conclude
17 that they are ^avulnerable species. There's all kinds of
18 words that can be used -- endangered is one that's used
19 perhaps too much; vulnerable is perhaps a bit better one.
20 They therefore share the same set of problems that the
21 woodland caribou shares. They are also a vulnerable
22 population, and a protection measure that Mr. Bouckhout
23 has in fact suggested, is perhaps the wisest one for
24 vulnerable populations like that, very stringent protect-
25 ive measures in the face of a major development like
26 this, points to, I think, one of the other costs that Yukon

1 residents are being asked to bear because of this project,
2 and that is that Yukon residents are going to be asked to
3 forego the privilege of hunting creatures like sharp tailed
4 grouse, like woodland caribou, because of the pipeline
5 project.

6 I think that concludes my
7 comments.

8 MR. CHAIRMAN: Does that
9 conclude your group's comments, Mr. Klassen?

10 MR. KLASSEN: Yes, it does.

11 MR. CHAIRMAN: Mr. Hernandez,
12 I must apologize, I believe in the aesthetics section, I
13 didn't ask you if you wished to comment, so would you wish
14 to comment on both areas now?

15 MR. HERNANDEZ: I don't
16 think I have very many specific comments. Most of the
17 areas that I either wanted to comment on or would have
18 commented on, were covered by others, or covered in their
19 reports, and I have no specific comments to add.

20 MR. CHAIRMAN: Thank you very
21 much.

22 What I would like to do is
23 to draw the proceedings to an end. I realize that the
24 points brought up in the last few minutes have not been
25 fully explored in this forum. I will ask Mr. Bouckhout,
26 though, to advise us, at his convenience, probably Monday,

1 if we can get to it, on the issues that he would like to
2 respond to, and I would like to thank everyone for bearing
3 with us and helping us get through a long and difficult
4 agenda, and I can assure you that even though all of the
5 points in the last few minutes have not been discussed at
6 length, we will take them into consideration in our
7 report.

8 Mr. Bouckhout?

9 MR. BOUCKHOUT: Dr. Hill, I
10 wonder if the people who read out the various concerns
11 might be able to provide me with a copy of some of the
12 more extensive ones?

13 It would be of most assist-
14 ance to me, since I haven't been able to write them all
15 down.

16 MR. CHAIRMAN: Okay, I think
17 the Y.T.G. comments are in their brief. Maybe they could,
18 after we close, they could point out to you where they are,
19 and the Fisheries' concerns, they will be giving you those
20 on Monday.

21 Who else was there that
22 spoke? Oh, just Mr. Oswald, possibly he could give you a
23 copy of his prepared statement.

24 Okay, then I would like to
25 close off the proceedings, and until Monday afternoon at
26

1 1:00 o'clock.

2
3 (PROCEEDINGS ADJOURNED TO MONDAY, JULY 11TH,
4 1977 AT 1:00 P.M.)
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